INDUS SIGNS *AND* GRAFFITI MARKS *OF* TAMIL NADU

A Morphological Study

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GOVERNMENT OF TAMIL NADU
DEPARTMENT OF ARCHAEOLOGY
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-A Morphological Study

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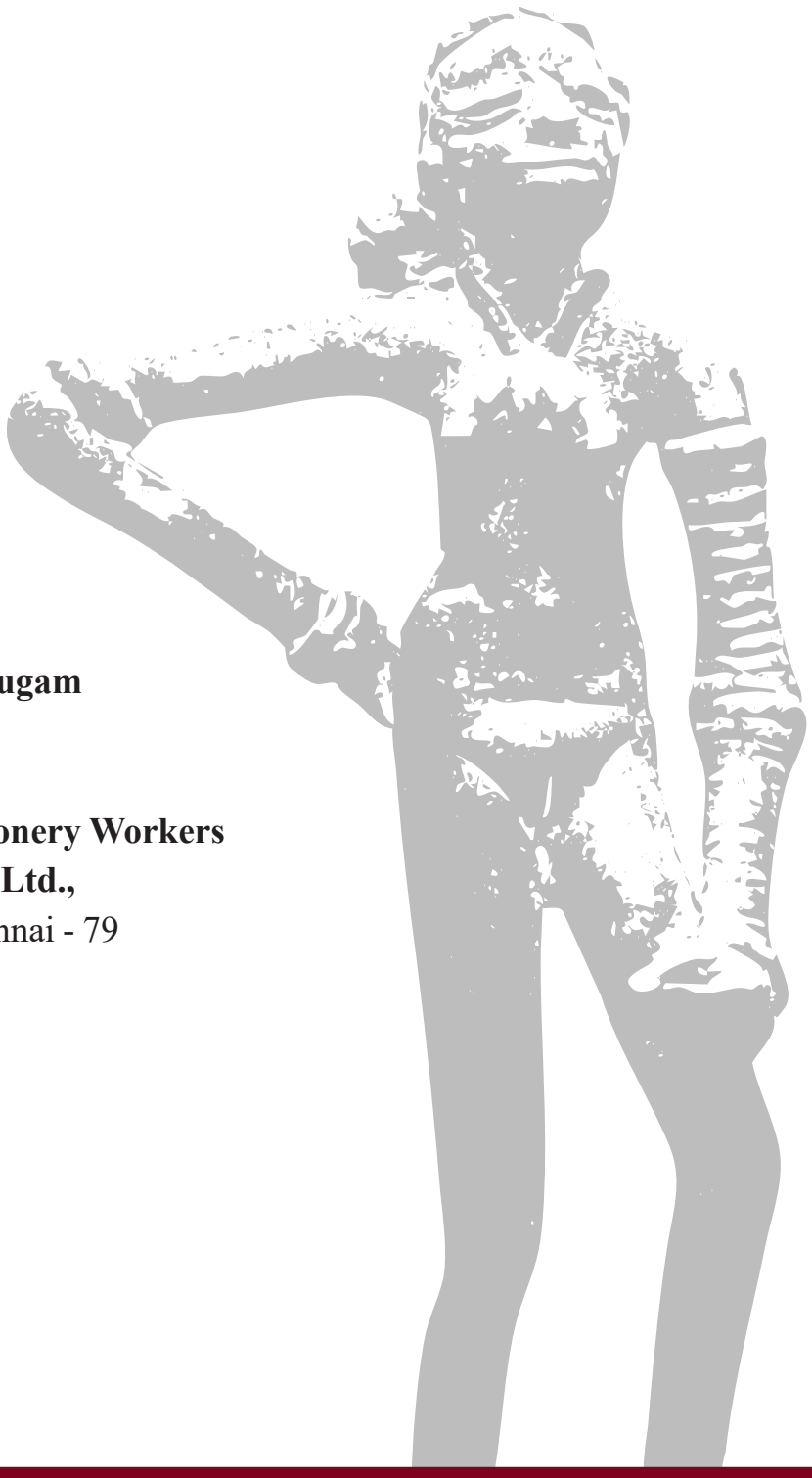

A MORPHOLOGICAL STUDY

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FOREWORD

Indus Valley Civilization is one of the greatest civilizations of the bygone age that followed in a wider geographical area when compared with other contemporary civilizations such as Egyptian, Mesopotamian and Chinese civilizations. The seals, advanced metallurgy, ceramic technology, well-planned city, monumental architecture, granaries, dockyard, standardized weights, trans-oceanic international trade, underground drainage system, subterranean canals displaying excellent water harvesting system, diversified agricultural activities, domestication of cattle, usage of script, boat building technology, resource mobilization through well-established trade routes, well-structured administrative system and firm state regulations are some of the hallmarks of Indus Valley Civilization. Irrespective of these achievements reconstructed based on material evidences, the non-decipherment of the Indus script remains an enigma in Indian history that prevents us from understanding their language and script. The decipherment of the Indus script would help to reconstruct the entire social, cultural, political and economic life of the Harappans. To date, the cultural life of the Indus people is being reconstructed exclusively based on material culture unearthed in excavations. Understanding the appearance and disappearance of this well-established writing system still eludes scholars and serious attempts to decipher the script are still going on at various levels. One among them is the comparative study of the Indus script with graffiti marks. The long survival of graffiti marks and their survival as parallel systems started receiving the attention of scholars. Limited evidence, non-availability of archaeological context and improper documentation still elude scholars in understanding the nature of graffiti marks. However, there is visible evidence to show the relationship between the Indus script and Graffiti marks. In the present work, an attempt is made to compare the graffiti marks encountered in archaeological excavations of Tamil Nadu with the Indus script. The findings are placed before the scholars for academic scrutiny. The preliminary morphological analysis of these marks clearly indicates that these are not merely unintentional marks rather there must be a specific meaning to it. The comparative study made with the Indus script indicates a close resemblance. We firmly believe that faithful documentation and interpretation are the only answers to decipher the Indus script. In that way, the present monograph is one of the finest efforts in that direction. I congratulate all the scholars and researchers involved in compiling the work particularly the authors of the monograph.

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FOREWORD

One of the most fascinating civilizations of the ancient world is the Indus Valley Civilization (IVC). The monumental structures of the IVC particularly the well-planned urban city, underground drainage system, water harvesting mechanism, great bath, granaries, dockyard and many other structural marvels stand as unique features of IVC. The intensive explorations and determined target-oriented excavations conducted in the Indus Valley revealed and reflected the urban life. Irrespective of their structural edifices exposed through a century of dedicated works, the reconstruction of the basic structure of the Indus society still eludes scholars due to the non-decipherment of the Indus script. The Harappan language is one of the enigmatic languages of the ancient world that has evaded the decipherment to date. The serious efforts put forth by archaeologists and linguistics fail to provide a satisfactory answer to the language of the Indus people. Most of the studies point towards Dravidian or proto-Dravidian language. The non-availability of the seals and sealings with bi-scripts in known and unknown languages hindered the path towards decipherment. The efforts are still on in identifying the language. The scholars felt that one of the clues that lie in opening the secret of the language is the graffiti marks, another unknown script of the contemporary culture. The excavations conducted in Tamil Nadu yielded more than fifteen thousand graffiti-bearing potsherds of which nearly two-thirds of them had parallels with Indus signs. Scholars believe that these graffiti marks stand as a clue or key to the decipherment of the Indus script. The Tamil Nadu State Department of Archaeology made an earnest effort to document the entire graffiti-bearing sherds encountered in Tamil Nadu and a list of signs that have parallel with Indus script were meticulously documented and were placed before the academic community to take further forward the Indus research. We strongly believe that the present monograph Indus Signs and Graffiti Marks of Tamil Nadu – A Morphological Study would serve as one of the active platforms to further their research.

(THANGAM THENNARASU)

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FOREWORD

The present monograph Indus Signs and Graffiti Marks of Tamil Nadu – A Morphological Study is the embodiment of recent research that carries various signs encountered on the potsherds of Tamil Nadu. The availability of a large number of graffiti-inscribed sherds covering a wider geographical area is considered one of the writing systems or scripts used by past communities. The non-decipherment of the Indus script and these graffiti marks deny the opportunity to understand the language that is hidden behind these signs. The non-decipherment led to intense debate in identifying the language family. The intense heated debate gives a way to associate the language of the Indus with Proto-Dravidian, Dravidian, Aryan, Non-Aryan and other language families among the scholars without arriving at any conclusion. The insufficient data may be one of the reasons for these prolonged discussions. The Tamil Nadu State Department of Archaeology felt that it was necessary to provide and feed with more concrete data so that archaeologists and linguistics could move closer to the decipherment. The graffiti marks profusely engraved on the surface of the pot are considered as one of the significant data to unravel the mystery of the Harappan language. Therefore, the Tamil Nadu State Department of Archaeology took the massive task of documenting the entire graffiti-bearing potsherds so far encountered in archaeological excavations of Tamil Nadu. The tell-tale results are now in your hands. The authors made an earnest effort to compare the Indus script with graffiti marks of Tamil Nadu. The visual presentation of those signs provided with effective illustrations alone could give a panoramic view of the efforts that needed to be taken in unravelling the Indus scripts and Graffiti marks. We do hope the scholarly world will recognize the significance of graffiti signs as one of the early writing systems that have a close resemblance with Indus script and the people.

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FOREWORD

Whatever may be the reason for the decline of the Indus Valley Civilization, the inevitable question that comes to mind is what happened to that enterprising population and where did they go? This remarkable work, *Indus Signs and Graffiti Marks of Tamil Nadu - A Morphological Study* offers a momentous indication. That a faithful documentation and contextual analysis of graffiti marks may help to decipher these undeciphered signs in the future, and in turn the decipherment of these graffiti marks may also help us to decipher the Indus script or vice-versa. As the centenary of the discovery of the Indus Valley Civilization (1924-2024) is being commemorated, I consider this indication as a significant takeaway of this endeavour.

The Indus Valley Civilization (IVC) is known to have had a well-developed writing system, which is represented in various artifacts, including seals, sealings, amulets, ceramics, and metal objects. Scholars have often referred to this script as a logo-syllabic writing system, based on its patterns, which are similar to those of other contemporaneous civilizations.

In the absence of a "Rosetta stone" type of bilingual script no final word has yet been said on the language of IVC. The primary challenge lies in the brevity of the Indus texts, which hinders comprehensive decipherment. As a result, the language of the Indus people still remains 'unknown' and the riddles of Indus thus linger. Claims and counter claims on the linguistic affiliations of the Indus Valley Civilization continue to be made. Dravidian and Indo- European linguistic families are the two strong claimants. Of these, the Dravidian Hypothesis is by far considered the 'best working hypothesis', relatively.

K. Rajan points out that the Dravidian hypothesis of IVC is advanced relying on four major fields of evidences and adds a fifth dimension. According to him the four broad fields are: material culture especially black-and-red ware culture; literature-linked linguistic studies; place name studies (toponyms) and astronomical-linked religious studies. And, the present study of graffiti marks adds a fifth dimension to the ongoing IVC debate by providing the required material evidence to understand the significance of the language of IVC and its script.

Apart from the reasonably well-articulated linguistic connectivity researchers refer to three cultural items namely black-and-red ware, graffiti marks and burial system and grave goods as links that fill the spatial and temporal distance between Indus Valley Civilization and the ancient Tamil cultural milieu. The significance of black- and-red ware and graffiti marks deserve concurrent reference because 70% of the graffiti marks and Tamili inscriptions are found engraved on black-and-red ware.

Black-and-Red Ware, in a way is pan-Indian. It occupies a unique position due to its long survival and its widespread presence transcending various cultural phases and geographical zones. The spatial and temporal spread throughout the Indian subcontinent drew the special attention of archaeologists and led to a national symposium on BRW pottery organized in 1954 by the Director General of ASI.

The current work refers to new multidisciplinary evidences and makes a strong plea that the prevailing opinion on the chronology of the southward movement of this BRW needs reassessment. It is a brilliant proposal.

The core theme of this book is graffiti marks. While most of the early scholars focused on the graffiti marks encountered in the context of Iron Age megalithic graves, it was B.B. Lal who gave a new direction and dimension to the subject. He compared the graffiti marks with Indus script. Way back in 1960 he wrote an article "From the Megalithic to the Harappa: Tracing back the Graffiti on the Pottery" in the Bulletin of the Archaeological Survey of India. It threw new light. B.B. Lal was drawn to the importance of Graffiti when he looked at the drawing of graffiti from Sanur in Tamil Nadu and he admitted that "he was particularly struck" by the similarity between that graffiti and Harappan script.

Following the footsteps of B.B.Lal, S.Gurumurthy compiled the graffiti marks and published a book "Deciphering the Indus Script: From Graffiti on Ancient Indian Pottery" in 1999. Gurumurthy's work on graffiti signs could be considered as the last dedicated attempt at graffiti marks in South India. The contribution of K. Rajan to this field of study is immense.

Apart from asking for reappraisal of the chronology of BRW, the authors put forth two more proposals eloquently. One suggestion is regarding the terms 'Indus script' and 'graffiti' used extensively and frequently in academic deliberation. All the recognizable scratches engraved on the ceramics in south India and to some extent on Indus ceramics have been designated as graffiti. The ones engraved on seals and other metal objects of the IVC is designated as a script. Though both the signs were written by the same people, still they were respectively differentiated and documented as graffiti and script. In this context the authors of this extensive comparative study of graffiti marks and Indus scripts point out the fact both are undeciphered signs and hence, these undeciphered signs should be called either as script or graffiti. It sounds logical. However, they speak about the current limitations as well. "It is very difficult to consider the

signs engraved on seals as scripts and the ones found on ceramics as graffiti. Either we should treat them both as script or graffiti as both of them were engraved by contemporary society. The two different terms used for identical signs make the analysis a little difficult".

Another suggestion this work makes is about the chronology of South Indian Iron Age. The prevailing view is that the South Indian Iron Age culture is chronologically later than Harappan culture and it is post-Harappan in nature. The authors draw our attention to the recent scientific dates obtained for iron at Adichanallur, Sivagalai, Mayiladumparai, Thelunganur and Mangadu and calls for review of prevailing perception. This work claims that the AMS ^{14}C dates clearly pushed the introduction of iron in south India to mid -3rd Millennium BCE demonstrating that the Iron Age of south India is contemporary to the Copper Age of north India. The authors emphatically state while north India experienced the Chalcolithic culture, south India experienced the Iron Age. It goes without saying, the availability of natural resources determined the nature of the metal age. The long-held view that the Bronze Age was succeeded by the Iron Age needs to be reviewed based on fresh evidence. In the same way, associating the first urbanization with the Bronze Age and the second urbanization with the Iron Age needs to be reassessed and reoriented to understand the Indian culture from a better perspective. And, this is what the authors assert in the light of fresh evidence.

When the Indus Valley experienced the Copper Age (Chalcolithic culture), the region south of Vindhyas might have entered into the Iron Age due to the non-availability of commercially exploitable copper ore. Thus, the Copper Age of the Indus Valley and the Iron Age of South India are most probably contemporary. The occurrence of graffiti marks in IVC and South India suggests a cultural or linguistic connection or migration of people on either side.

Coming back to the comparative study of South Indian graffiti marks with Indus scripts and Indus graffiti marks, the authors suggest that there are parallels in both types. While stating that this specific research is at the embryonic stage due to limited data at their disposal, we are able to appreciate the fact that irrespective of these lacunae, the authors have made an earnest attempt to compare the South Indian graffiti signs with Indus signs. Out of 42 base signs and their variants, nearly 60% of them found their parallels in the Indus script. Quite interestingly, more than 90% of the graffiti marks of South India and the graffiti marks of the Indus Valley Civilization had parallels and more specifically several signs encountered in Tamil Nadu had exact parallels in the Indus scripts. This discovery, I am sure is poised to shed new light on the writing system of the IVC and its potential connections to the Tamil writing system.

At this juncture, I recall the views of Iravatham Mahadevan. In his publication, *Vestiges of Indus Civilization in Old Tamil* (2009) Mahadevan has listed some of the graffiti obtained from Sanur excavations that are similar to the IVC signs. Mahadevan has also identified graffiti from Sulur (on a dish) and Sembiyan Kandiyur (on a Neolithic axe) with that of the Indus script. He considered a genetic link between the signs of the Indus script and Indus like graffiti found in Tamil Nadu a distinct possibility.

I have huge admiration for Dr K. Rajan's deep scholarship, judicious and farsighted approach. It is with great pleasure and humility I write this foreword for a work done by this eminent scholar.

I conclude stating that the riddles of Indus and the riddles of Tamil antiquities are in a way two sides of the same coin, notwithstanding the spatial and temporal distances. This outstanding work gathers further strength to the above stated position.

A MORPHOLOGICAL STUDY

INDUS SIGNS *AND* GRAFFITI MARKS *OF* TAMIL NADU

A MORPHOLOGICAL STUDY

Indus Signs and Graffiti Marks of Tamil Nadu

A Morphological Study

Indus Valley Civilization (IVC), also known as Harappan Civilization, thrived in a wider geographical area covering 6,80,000-8,00,000 square kilometres of the Indian subcontinent (Kenoyer 2010:106-122), literally occupying more than the combined areas of its contemporary Egyptian and Mesopotamian civilizations. The excavations conducted in major urban centres such as Harappa, Mohenjadaro, Dholavira, Lothal, Kalibangan, Rakhigarhi and several other small rural settlements provided ample evidences to reconstruct various aspects of this civilization (Fig.1).

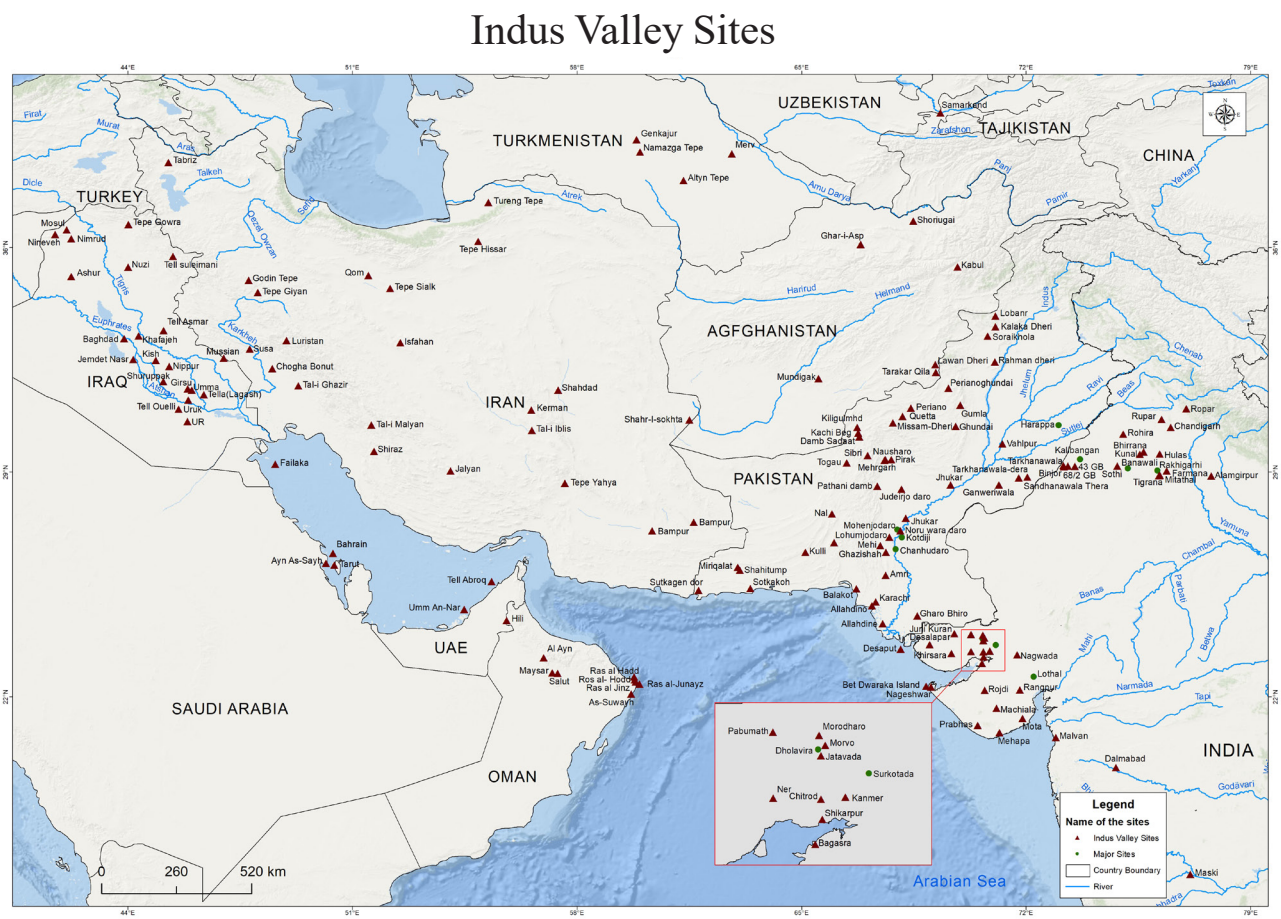

Fig. 1 Important Indus Valley Civilization sites and its contacts

Based on material evidences and scientific dates, the cultural phases of IVC have been broadly designated as Pre-Harappan (ca.3500-3000 BCE), Early Harappan (ca.3000-2500 BCE), Early Mature Harappan (ca.2500-2300 BCE), Middle Mature Harappan (ca.2300-2100 BCE), Late Mature Harappan (ca.2100-1900 BCE) and Late Harappan (ca.1900-1300 BCE) and various views on periodization are generalised as specified in Table-1.

TABLE 1: CULTURAL PHASES OF INDUS TRADITION				
General Periodisation	**Eras**	**Subsistence**	**Cultural Phases**	**Cultural Periods**
Microlithic ca. 10000 – 7000 BCE	**Foraging Era** ca. 10000 - 2000 BCE		Mesolithic and Microlithic	Mesolithic
Neolithic ca. 7000 – 3000 BCE	**Early Food Producing Era** ca. 7000 - 5000 BCE	An economy based on food production and the absence of ceramics	**Mehrgarh phase**	Neolithic
Pre-Harappan/ Early Harappan ca. 3000 - 2500 BCE	**Regionalisation Era** ca. 5000 - 2600 BCE	Distinct artefacts styles, essentially, ceramics, which cluster in time and space and interaction networks which link dispersed groups	**Early Harappan Phases** Hakra Phase SKT/Tochi - Gomal Phase Ravi Phase Kot Diji Phase Sothi-Siswal Phase Amri Phase	Ravi Phase – Period - I Kot Diji Phase - Period-II
Mature Harappan ca.2500 – 1900 BCE	**Integration Era** ca. 2600 – 1900 BCE	Pronounced homogeneity in material culture distributed over a large area reflecting an intense level of interaction	**Harappan Phase** Indus Civilization Late-Kot Diji Kulli Sorath	Harappan Phase – Period IIIA Harappan Phase – Period IIIB Harappan Phase – Period IIIC
Late Harappan ca.1900-1300 BCE	**Localisation Era** ca. 1900-1300 BCE	Comparable to regionalisation except that there is a more generalised similarity in artefacts styles, indicating continuity, but altered, presence of interaction networks	**Late Harappan Phases** Punjab (Cemetery H) Jhukar Rangpur	Harappa/Late Harappa Transitional Phase – Phase IV Cemetery H Phase – Period V
Table prepared based on Bisht 1991:71-82, 1994:35-38 and 2000:305-314; Jagat Pati Joshi 1987; Law 2011:38; Shah 1991; Staffer 1992:442 and others				

In the Pre-Harappan phase, round, square and rectangular button seals with geometric motifs and two holes in the middle for threading are attested from Mehrgarh IV and V. A bone seal of this variety (H-1521) was reported at Harappa. An ivory seal from Rahman Dheri IB also has two holes in the middle but with figurative motifs of a pair of scorpions. In the Early Harappan phase, button seals with geometric motifs continued and the stylised human and animal figures appeared as observed at Mehrgarh VI and Kunal in Haryana. The earliest graffiti appears on potsherds at Balakot (also called Kot Bala) in the Lasbela district of Balochistan around 4000 BCE (Ahmed 2014; Lashari *et.al.* 2020). The holes in seals with a knob on the back also started appearing. The earliest representation of an elephant on Harappan seals surfaced at Harappa from Kot Diji levels (ca. 2800-2600 BCE). A copper seal with a loop on the back illustrating a humped bull first appeared at Nausharo-IB (ca. 2900-2800 BCE). In the Early Mature Harappan phase, the representation of animal figures continued. In the Mid - Mature Harappan phase, the typical square stamp seals with bisected, oval and perforated knobs on the reverse started appearing. The face has one line Indus script but having a second line with one sign is not uncommon whereas the three lines are rare. Beneath the script normally pictorial motifs appeared. More than half of the seals are depicted with a unicorn and bull usually facing right (in

the sealings) towards a cult object, two different superimposed containers on a stand. Other animals commonly observed are zebu, elephant, bison, water buffalo, rhinoceros, tiger and occasionally goat, log-spouted crocodile, wild ass, mythical beasts with one body and three heads, and animals with a human face. Anthropomorphic deities, heroes or priests and a man with a chignon squatting in a tree while the tiger beneath looks backwards at him are rarely found. In the Late Mature Harappan phase, the rectangular bar seal with text alone appeared. In the Late or Post-Harappan phase (Cemetry-H phase), the seals are totally absent (Parpola 2016: 127-143). The statistical analysis suggests that nearly 60 percent of Indus texts are found on seals and sealings. Thus, the utility and evolutionary process of the Indus seals are important in understanding the relation between the script and the graffiti.

The usage of seals, advanced metallurgy, excellent artistic ceramic technology, well-planned grid pattern-based settlement, fortified cities, multi-storied houses with indoor bathrooms and courtyards symbolizing hygienic sanitation system, sophisticated public architectural monuments reflected in the form of Great Bath, granaries, dockyard, and the standardized weights, internal and external trade, underground drainage system, subterranean canals displaying excellent water harvesting system, diversified agricultural activities, domestication of cattle, usage of script, boat building technology, resource mobilization through well-established trade routes, well-structured administrative system, advanced technology in the field of metallurgy, gemstone cutting and bead making, ceramics, seal engravings and many other advanced features demonstrate greatly an organized administration, urban planning and firm state regulations, which are some of the impressive Indus Valley accomplishments. The absence of weapons of offensive nature suggests that they led largely a peaceful life. The presence of a horned-man in a seated posture, a priest-king figurine and a mother goddess led us to believe that they practised a kind of faith system in association with rituals. To date, the cultural life of the Indus people is being reconstructed exclusively based on material culture unearthed in excavations. The other scripts encountered in contemporary civilizations were deciphered in a more satisfying manner leading to the detailed reconstruction of their cultural life. The non-decipherment of the Indus script prevents the scholars from providing a complete picture of the non-materialistic life of the people. There is an argument that the vast area of Indus civilization covering more than 1 million square kilometres unlikely to exist with one linguistic group rather it might have survived with the multi-linguistic group but the available scripts or texts on the seals, sealings and ceramics suggest that the languages spoken in IVC may be of multiple in nature whereas the written language of the IVC is of one linguistic group. Thus, the quest for understanding the language and script of the IVC is continuing with greater interest.

Writing System

As the evidence demonstrates, the IVC maintained a well-developed writing system and is represented in multiple artefacts including seals, sealings, amulets, ceramics and metal objects. Nearly 4000 specimens were documented carrying around 450 standardized signs (Mahadevan 419 signs and Asko Parpola 386 signs) in the seals and sealings representing mostly animals, zoomorphic and anthropomorphic figures. B.Wells in his updated sign list listed 695 signs and the Interactive Corpus of Indus Texts (ICIT) database contains 3898 inscribed artefacts having 4791 texts (one to three-sided). Out of 4791 texts, 3723 texts of them are complete with 13556 signs (Wells 2006:67-93; Fuls 2013:253-275; Wells and Fuls 2023). In general, the ancient writing systems evolved over the years as pictograms, ideograms, logograms and finally phonetics containing syllables and alphabets. Based on the number of standardized signs, the majority of scholars believe that it

represents a logo-syllabic writing system. The contemporary Sumerian and Egyptian civilizations also carry logo-syllabic writing systems. Most of the Indus texts are in brief carrying 4-5 signs, the sign board from Dholavira carries 10 (Fig. 2) and the longest text carries 26 signs. About 50 texts are carrying around 10 signs. The brevity of the Indus texts suggests that it is unlikely to represent a complete sentence and it may carry noun phrases like names and titles as signatures tomark ownership

Fig. 2: Sign Board from Dholavira (Courtesy: R.S.Bisht)

Bahata Ansumali Mukhopadhyay after analysing various combinations of Indus signs such as typical co-occurrence, collocations, syntactic order and independent occurrence of some signs suggests that Indus signs represent different content-morphemes and functional morphemes rather than phonograms. She identified several logograms into nine functional classes which convey the functional roles through the texts or short inscriptions (Bahata 2019:1-37).

The signs in the seals are perfectly engraved and highly standardized. The available evidence suggests that the scripts did not go through any evolution or palaeographic change during the period of its existence which indirectly indicates that it had been standardized well before by crossing all the evolutionary processes. However, the close observation of seals and sealings found at Binjur suggests that the earliest seals were predominantly pictographic in nature carrying only animal/human figures, in the second stage both animal/human figures were found in association with scripts and in the third stage scripts alone were engraved. It also fails to reflect any regional variations further strengthening its standardization and rigidness. Irrespective of the best efforts of the scholars, the Indus script remains undeciphered. However, considerable progress has been made in the structural analysis of the Indus script. According to Iravatham Mahadevan, the Indus text has introductory phrase(s) and substantive phrases in which the former is optional and the latter is an essential part of the text. The substantive phrase can be further segmented into root or stem signs.

The analysis of the text represented in the sealing such as the cramping at the left end of the line in need of space, overflow of the last sign or signs to the right end of the second line, overlapping of the right over the left sign led to the conclusion that the direction of writing is right to left but whether the contemporary non-Indus script or signs were written from right to left or left to right is not well demonstrated. But, nearly 8% of the available text in the seal followed reverse writing (Mahadevan 1977:10). However, the Iron Age graffiti signs of Tamil Nadu were written from left to right. The position of graffiti at the end of the Tamiḻi (Tamiḻ-Brāhmī) inscription and overriding signs or superimposition of the scratches suggest that they were written from left to right (Figs. 3 and 4).

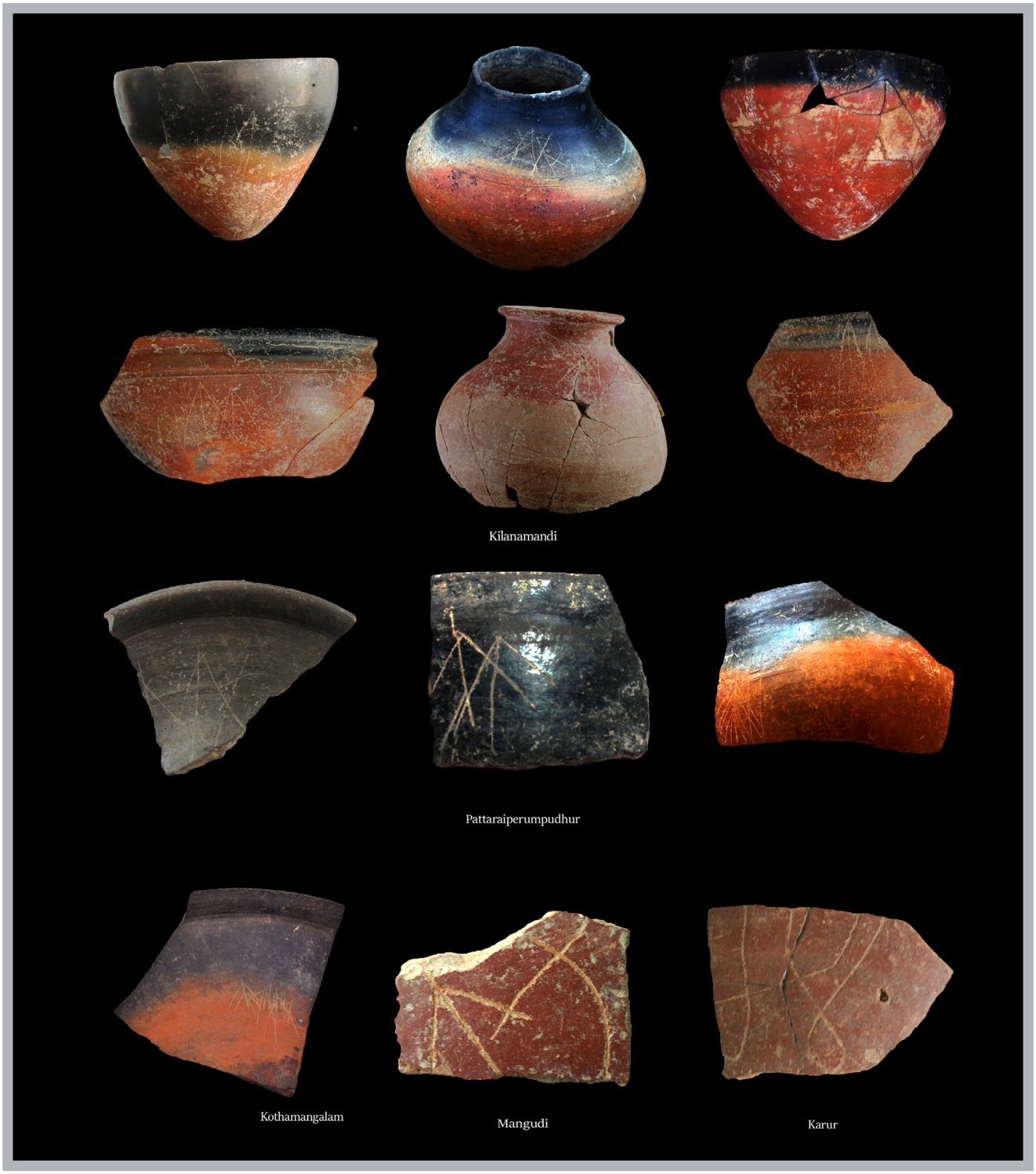

Fig. 3: Graffiti Marks -Direction of writing

Fig. 4: Graffiti Marks -Direction of writing

The limited number of signs close to 450 signs indicates it is logo-syllabic (word signs) as the number of signs is too large to designate them as alphabetic or syllabic writing. Further, the text needs more characters to express in an alphabetic writing system but the seals carry an average of 5 signs in a text. Thus, scholars felt that the Indus writing system followed a logo-syllabic writing system. Irrespective of the identification of the direction of writing, word segmentation analysis, frequency distribution analysis, structural analysis and decipherment eluded the scholars. Iravatham Mahadevan and Asko Parpola attempted to decipher the script by using bi-lingual parallels both from Old Tamil and Vedic Sanskrit. They felt that the Dravidian inheritance of the Indus Civilization is linguistic and the cultural connectivity is yet to be established through material evidence. As pointed out by Iravatham Mahadevan, interpretation of the Indus script can be achieved only through studying the archaeological context of the seals, parallels from the contemporary ideographic scripts and survival of the Indus tradition. The graffiti marks are considered one of the survivals of the Indus tradition.

The multiple and continuous inward migrations towards the fertile zones of the Indus Valley resulted in cultural diversity. Initially, the research was focused on archaeology and linguistics. Later on, it moved over to multi/inter-disciplinary approaches and the latest being the aDNA. These material-linguistic-scientific researches provided a complicated picture of the kind of people who survived in the Indus Valley for more than a millennium. The major division of thought is centred around the Indo-Aryan (Indo-Europeans) and Dravidian (aboriginal/indigenous people) hypothesis. Iravatham Mahadevan and Asko Parpola, based on key differences between the IVC and Vedic cultures, believe that they were non-Aryan/pre-Aryan. The absence of horses and spoked wheels in Indus and the prevalence of buffalo-horned male god, mother goddess and other folk or ethnic deities of Tamil origin are considered solid evidence to advance the Dravidian hypothesis The absence of Vedic celebrated gods such as Indra, Agni, Soma, Mithra, Rudra, Aswin twins and Varuna, the fire-centric rituals, horse-centric life and the absence of reference to tigers and elephants in Vedic literature placed against the Aryan hypothesis. The excavations at Mehgarh, Nausharo, Sibri and Pirak have provided evidence of continuous occupation from 7000 to 1000 BCE with the emergence of agricultural-based rural communities and slowly evolving as urban-based communities supported with trade and technology. These excavations emphasis indigenous development rather than any outside stimuli. Thus, recent archaeological and genetic studies suggest that human migrations took place from Central Asia in a series of waves. The last wave is the migration of Indo-European speaking wave, widely known as Aryans carrying Gene R1a1, which entered India about 3500 years ago. Broadly speaking, all recent researchers intended to use the term Indigenous people rather than Dravidian, however, they all agree that they are pre-Aryan.

The decline of a massive IVC also generated much debate on the movement or migration of the people. Now it is widely agreed that the failure of monsoon, sea-level fluctuations, tectonic uplift of coastline, repeated floods, over-exploitation of natural resources, water-logging, rise in salinity of irrigated lands, river migrations, depletion of trade and commerce, the disintegration of central authority and many other interrelated factors collectively played a greater role in the downfall of this vast civilization. The disintegration of well-structured administration and subsistence patterns led them to migrate, not all, to other potential productive zones. The scholars felt that the language and culture might have also moved along with them as cultural carriers. The search for such linguistic links is being probed and the importatnt among them is the graffiti marks.

Dravidian-Aryan-Indigenous Hypothesis

Scholars such as Suniti Kumar Chatterji, Father Heras, Yri Valentinovich Knorozov, Walter Fairservis, Iravatham Mahadevan, Kamil Zvelebil, Krishnamurti and Asko Parpola hold the view that the Indus scripts carry proto-Dravidian language whereas S.R.Rao, M.V.N.Krishna Rao and John E.Mitchiner hold the view that the language of Indus script is an Indo-European. In contrast to these two hypotheses, Michael Witzel, Steve Farmer and Richard Sproat emphasise that Indus signs do not carry any language rather they are mere symbols (Farmer *et.al.,* 2004:19-58). As the research progressed, the cultural material, aDNA and linguistic evidence provided much support for non-Aryan theory. The Indigenous theory slowly gaining momentum but limited material and linguistic evidence prevents them from leaning towards the Dravidian hypothesis. In addition to the linguistic data such as the presence of loan words in the *Rig Veda,* the existence of substratum influence of Dravidian loan words on the Prakrit dialects, the presence of suffixes in Indus texts and the absence of prefixes are considered significant linguistic evidence in support of the Dravidian hypothesis leading to suusgest that Dravidian is the most likely underlying language of Indus texts. Iravatham Mahadevan and Asko Parpola played a significant role in establishing the proto-Dravidian theory (Mahadevan 2014; Parpola 1994). They placed substantial linguistic evidences favouring Dravidian authorship. Masica and Bahata also hold the same view (Masica 1991:40; Bahata 2021:1-14).

Dravidian hypothesis

The word 'Dravidian' is used to denote the southern family of languages. The early Jaina-Prakirt literature *Pannavasutta* of the 1st century BCE refers to 18 scripts of which one is a Damili, and the Buddhist Sanskrit literature *Lalitavistara* of the 3rd century CE refers to 64 scripts of which one is a Dravidi. Greek sources refer to southern India as Damirica and contemporary sources as Dramida and later Dravida. The terms Dramiḍa, Dramiḷa and Damiḷa were interchangeably used. Kalinga Kharavela's Hathigumpha inscription of 1st BCE refers to the break-up of the confederacy of the T[r]amira (Dramira) countries of one hundred and thirteen years, which has been a source of danger to (his) Country (*Janapada*). Thus, the early literary works refer to the southern part of India as Dramida and later as Dravida. Though literature refers to several scripts, but, only three scripts namely Brahmi, Damili and Kharosthi have been identified in India. The early epigraphical records provide two languages namely Prakrit and Tamil and later on Sanskrit added to the list. Based on the availability of primary sources, the historical linguists placed the South Indian family of languages under the Dravida family, a concept conceived and proposed by Francis Whyte Ellis in 1816 and Robert Caldwell in his monumental work *Comparative Grammer of the Dravidian or South Indian Family of Languages* in 1875 provided comprehensive picture on the language family and the term Dravidian anchored in the academic discussion and debate. Bhadriraju Krishnamurti, in his book *The Dravidian Languages* (2009), lists 26 languages of which one is in Pakistan (the Brahui language). The identification of language families led to the debate that the language of the IVC is Dravidian or proto-Dravidian and pre-Aryan. As discussed, the urban nature of the IVC, the absence of horse and spoked wheels and

the presence of buffalo-horned male god, mother goddess and other folk or ethnic deities of Tamil origin placed in favour of Dravidian theory and against Aryan theory. Thus, the debate is continuing and it will continue till the decipherment of the Indus script and the identification of its language. As a middle path, the theory of indigenous development cropped up in recent years based on the excavations conducted at Mehgarh, Nausharo, Sibri and Pirak where one could see unbroken cultural sequences from 7000 BCE onwards. The aDNA extracted from the skeletal remains of a woman belonging to a mature Harappan at Rakhigarhi suggests that no detectable ancestry from the Steppe Pastoralists or Iranian farmers (a genetic marker R1a1 known as the Aryan gene). The absence of the Aryan gene (R1a1) reiterates the claim that Harappans were non-Aryans and Indigenous people (Shinde *et.al.* 2019:729-735). The paper co-authored by 117 scientists and published in *Science* Journal suggests that there are several waves of migration from Central Asia (Narasimhan *et.al.,* 2019). The first wave of migration (carrying Gene R1a) entered into the Indian sub-continent about 12000 years ago and the second wave of Indo-European language-speaking people, widely known as Aryans (carrying Gene R1a1) arrived from Russian plains about 4500-3500 years ago. Thus, aDNA studies added further fuel to the much-debated study. As the aDNA samples are extremely poor and limited to one sample, it is very difficult to arrive at a definite conclusion. Let us hope and rely on future scientific data to assess the situation.

Scholars who researched the IVC following the Dravidian model used the word Proto-Dravidian, meaning an ancient form of Tamil. Both Iravatham Mahadevan and Asko Parpola adopted the Dravidian model and used the Sangam literature, the earliest surviving literary works of the Early Historic period, quite often to prove that the IVC was a pre-Aryan and it is an early Dravidian civilization.

Thus, the Dravidian hypothesis is advanced relying on four major evidences:

- **material culture especially black-and-red ware culture**
- **literature-linked linguistic studies**
- **place name studies (toponyms) and**
- **astronomical-linked religious studies.**

The present study of graffiti marks adds a fifth dimension to the ongoing debate by providing the required material evidence to understand the significance of the language and script.

Material culture

The important question raised in the academic world concerning the cultural connectivity between Indus and South India is the evidence of the material culture. Three cultural items namely black-and-red ware, graffiti marks and graves are repeatedly emphasised as the survival of the cultural links between Indus and south India besides the linguistic connectivity. One more question that inter-woven with the material culture is the chronological contemporaneity. It is widely believed that South Indian Iron Age culture is chronologically later than Harappan culture and it is post-Harappan

in nature. The recent scientific dates obtained for iron at Adichanallur, Sivagalai, Mayiladumparai, Thelunganur and Mangadu forced us to review this perception.The recent scientific dates forced us to review this perception. The chronometric dates clearly demonstrated that the Iron Age of south India is contemporary to the Copper Age of north India.Now, the emerging picture confirms that while north India experienced the Chalcolithic culture, south India experienced the Iron Age. In fact, the availability of natural resources determined the nature of the metal age. The long-held view that the Bronze Age was succeeded by the Iron Age needs to be reviewed based on fresh evidence. In the same way, associating the first urbanization with the Bronze Age and the second urbanization with the Iron Age needs to be reassessed and reoriented to understand the Indian culture from a better perspective.

Black-and-Red ware

In the Indian context, the ceramics are considered as one of the important cultural markers. The existence of various ceramic traditions, both in time and space, such as burnished grey ware, Harappan ware, plain black-and-red ware, white painted black-and-red ware, OCP, PGW, NBPW, Ahar ware, Kayatha ware, Malwa ware, Jorwe ware, russet coated ware, rouletted ware, Arretine ware, amphorae, turquoise glazed ware, torpedo jars, celadon ware and host of other ceramics provided important clue on the cultural movements and trade contacts. Among the array of ceramics encountered in India, black-and-red ware occupied a unique place due to its long survival and its wide spread transcending various cultural phases and geographical zones. The spatial and temporal spread of black-and-red ware throughout the Indian sub-continent kindled a kind of interest among archaeologists and cultural anthropologists. Initially, it was thought that it originated around 2000 BCE during late Harappan times and spread from there to other parts of India. Now, this ware is stratigraphically placed in the pre-Prabhas cultural level and chronologically placed around 3300 BCE in Gujarat. The AMS^{14}C dates obtained at Sivagalai, Adichanallur, Mayiladumparai, Thelunganur, and Mangadu pushed the date of black-and-red ware before 2500 BCE. The prevailing opinion on the southward movement of this ware needs to be reviewed in the light of fresh scientific dates. The above mentioned dates suggest both iron and black-and-ware are contemporaneous in nature. The black-and-red ware received special attention as nearly 70% of the graffiti marks and Tamili inscriptions are found engraved on black-and-red ware.

Literature-linked linguistic studies

The mutual integration of Indus Valley culture with immigrant Aryan culture at the end of the Indus Vally Civilization forced the scholars to look for literary evidence both in *Rig Veda*, the earliest Indo-Aryan literature and the Sangam literature, the earliest Dravidian literature to trace the linguistic feature embedded in the ancient scriptures. The probe to trace the presence of Dravidian elements such as religious practices, agriculture, craft traditions and social institutions in *Rig Veda* was initiated. The availability of the black-and-red ware, high-tin bronze, semi-precious stones such as carnelian, agate and lapis lazuli reflect the movement of the people from the north to south and vice versa. This southward migration might have taken place from the time of Harappan period or still earlier. This southward migration was connected with a later day myth of Velir clan movement of Early Historic times (Puṟanāṉūṟu 201). The myth simply reflects continuous flow of the people on either directions.

The introduction of black-and-red ware in the South was also taken as a token of cultural movements. It is considered that the frequency and position of the Jar symbol represent the Dravidian masculine singular nominal suffix (*aṉ*) and also ideographic value as a 'sacred vessel'. In Tamiḻi inscriptions, the *aṉ* suffix is found in several places. In the same way, the skeletal deity ideogram or sign (sign 47 of IM) identified with the deity Muruku (Murukaṉ) developed from the root word *mūr/mur*. In the same way, the sign of the horned-god is equated with the god Siva, the *Nīḻakaṇṭaṉ*. In many places, the horned-god is associated with a trident (Mahadevan 1999:22-39). Bahata Ansumali Mukhopadhyay proposed that the name of the imported foreign goods will bear the name of the origin of the country. Accordingly, the term *pīru/pīri* stands for an elephant in the Akkadian language and *pīrus* for ivory in Old Persian came from IVC, the country of origin and it is the root word from the Dravidian language. She also believes that the language of the IVC is proto-Dravidian (Bahata 2021:1-14).

Toponymical and Onomastic Studies (Place name/Proper name studies)

Asko Parpola advocated in his book *Deciphering the Indus Script* the need for radically different source material to decipher the Indus script. One such different source material is the study of place/proper name studies. H.D. Sankalia, Southworth and Asko Parpola studied the place names such as *jola, bhitti, guddi, vali, palli,* and *pattana* encountered in Gujarat and linked them with Dravidian origin. Mahadevan compared the *nāṉmāṭakkūṭal* with the 'City of Four Quarters', *akam* and *puṟam* with the inner and outer city. The jar-bearer with *poṟai/poṟaiyaṉ,* a name associated with Cheras. The pictorial representation of three peaks is considered as a mountain (*malai*) or hill (*kuṉṟu*). The grided rectangle is considered as a ploughed field (*nāḍu*). The segmented cone pictorial representation is interpreted as high (*mēl*) and west. The horn-sign stands for *kōḍu* meaning horn. The combination of three peaks and a segmented cone is considered as a high mountain. The presence of an additional jar sign at the end leads to represent a personal noun as *mēlmalaiyaṉ* (Mahadevan 2014:1-44; Parpola 2015).

The contributions of Indus scholar R. Balakrishnan in place name (toponymical) studies are immense and immeasurable as reflected in his latest book *Journey of A Civilization – Indus to Vaigai* (2019). He analysed the names as descriptive, associate, incident, possessive, commemorative and commendatory names. He emphasises that the name also migrates along with the migration of the people and they assign the same name at new places of their occupation providing a clue on the nature and timing of migration. These kinds of name transfers indirectly provide information on the ancient landscape. The comparative study of the place names found in different geographical zones, that too in clusters, offers a reliable picture. When it is substantiated with the cultural material, its reliability is further strengthened manifold. Thus, the study of the historicity of the place names offers additional information to the existing views. For instance, he has elaborated on the significance of Korkai-Vanji-Tondi complex and he identified exact parallels in the northwestern part of the Indian sub-continent comprising part of India, Pakistan and Afghanistan. He developed a database containing 12,66,706 place names and recognized the identical names out of these databases that

were encountered in the said geographical zones (Balakrishnan 2019:119-145). He also traced the movements of place names that reached Tamil Nadu through Gujarat, Maharashtra and Karnataka. The high-west (*mēl*) and low-east (*kīḻ*) respectively representing the citadel and lower town in city planning of the Indus Vally Civilization are well-researched in his book (Balakrishnan 2019:189-212).

Astronomical-linked religious studies

Another important finding of Asko Parpola is the astronomical representation (Parpola 2013:21-78). Astronomical knowledge is essential in any agriculture-based society where the prediction of seasons is so important for better agricultural output. It is also so useful in transoceanic navigation. The absence of calendrical asterisms in *Rig Veda* and its counterparts in Iranian and its presence in later Vedas demonstrate that the astronomical data were incorporated after having contact with Indus people. Thus, the Vedic Nakshatra calendar was devised by the Harappans and its original language was Dravidian. Asko Parpola felt that the crab stands for *kōḷ* (planet) and the representation of crab and fish together stands for *kōḷmīṉ*. He believes that the fish (*mīṉ* means star) sign represents celestial objects. The fish sign with roof, the fish sign with two vertical lines, fish sign divided into two are considered to represent *mēi-mīṉ, veḷḷi-mīṉ* and *pasu-mīṉ* respectively.

Indus Civilization and Iron Age: Contemporary Cultures

The recent AMS^{14}C and OSL dates obtained from the Iron Age graves at Vallam, Mangadu, Kilnamandi, Mayiladumparai, Adichanallur and Sivagalai force us to review hitherto-held views on the introduction of iron in Tamil Nadu (Sivanantham, *et.al.,* 2022; Rajan *et.al.,* 2022; Rajan *et.al.,* 2017:52-59; Gnanaraj *et.al.,* 2023:425-432). South India is known for Iron Age sites and Tamil Nadu is no exception to this. More than three thousand Iron Age graves were identified on the ground (Fig. 5). Of them, only a few sites were excavated and many of them for a brief period yielding limited data. Nevertheless, target-oriented excavations were initiated in recent years by the Tamil Nadu State Department of Archaeology, the Archaeological Survey of India and various Universities resulting in some understanding of the Iron Age. To date, 17 samples have been collected in the cultural context yielding iron objects and were dated using two different scientific methods (10 AMS^{14}C and 7 OSL) from five different scientific laboratories namely Beta Analytic, Arizona University Lab., Inter University Accelerator Centre (IUAC, New Delhi), Birbal Sahni Institute of Palaeosciences (BSIP, Lucknow) and Physical Research Laboratory (PRL, Ahmedabad) for the samples collected from Sivagalai, Adichanallur, Kilnamandi, Vallam, Mayiladumparai and Mangadu (Table 2). If one considers the absolute dates received from five different laboratories and using two different techniques namely AMS^{14}C and OSL,it is quite clear that the introduction of iron in India goes back to the last quarter of the 3rd millennium BCE. The date of 2500-3000 BCE has been taken as a mid-range value although two dates fall even in the early part of the 4th millennium BCE (3259 BCE and 3345 BCE).

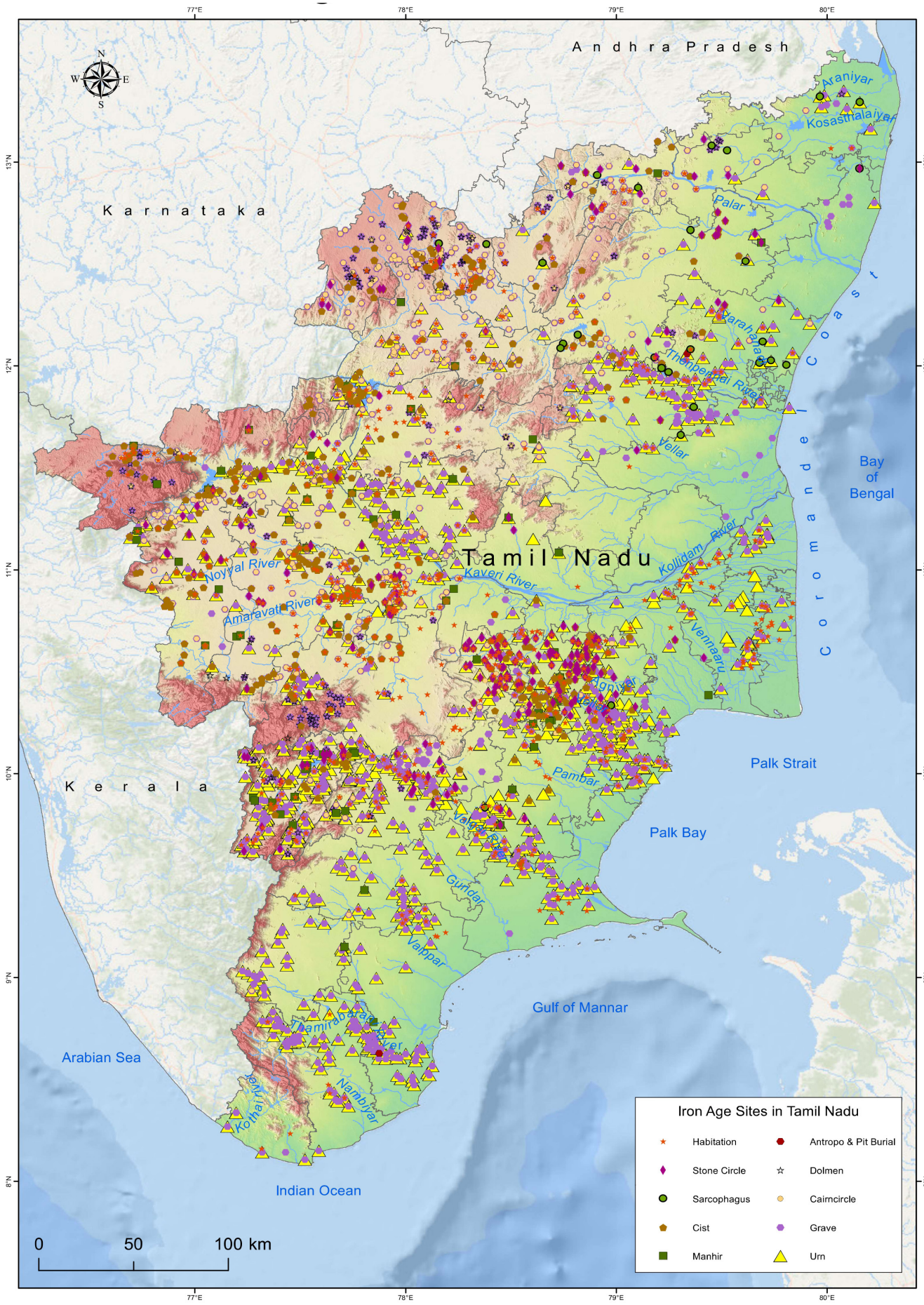

Fig. 5: Iron Age sites of Tamil Nadu

IRON AGE SITES IN TAMIL NADU

TABLE 2 EARLY IRON YIELDING SITES OF TAMIL NADU
(A COMPARATIVE STUDY OF THE AMS ^{14}C AND OSL DATES)

S. No	Site	Institution	Sample No	Context	Radiometric age (in BP; BP for OSL is 2020 CE)	Error age +/- (years)	Final calibrated radiometric age (in BCE)	Method
1	Vallam	Tamil University	PRL-1109	Habitation - Charcoal	2980 BP	30	**1030 BCE**	AMS ^{14}C
2	Adichanallur	ASI	IUACD #23C5693	Locality-B; Urn No. 13 Paddy	2840 BP	54	**1052 BCE**	AMS ^{14}C
3	Sivagalai	Tamil Nadu State Archaeology	Beta 600726	Trench-A2-Urn-3	2950 BP	30	**1155 BCE**	AMS ^{14}C
4	Adichanallur	ASI	IUACD# 23C5692	Locality-C; Urn No. 38 Paddy	2947 BP	46	**1257 BCE**	AMS ^{14}C
5	Mangadu	Pondicherry University	AA 104114	Grave-Iron object	3213 BP	34	**1263 BCE**	AMS ^{14}C
6	Sivagalai	Tamil Nadu State Archaeology	BSIP	A2-Urn-3 Ceramic	3304 BP	561	1284 BCE	OSL
7	Adichanallur	ASI	IUACD #23C5689	Locality-C; Urn No. 7 Millet	3155 BP	40	**1384 BCE**	AMS ^{14}C
8	Mayiladumparai	Tamil Nadu State Archaeology	Beta 620258	Habitation-Charcoal	3310 BP	30	**1569 BCE**	AMS ^{14}C
9	Kilnamandi	Tamil Nadu State Archaeology	Beta 666752	Meg. 3 Charcoal	3400 BP	30	**1692 BCE**	AMS ^{14}C
10	Sivagalai	Tamil Nadu State Archaeology	BSIP	L13-Urn-5	3856 BP	363	**1836 BCE**	OSL
11	Sivagalai	Tamil Nadu State Archaeology	BSIP	L13-Urn-2	3929 BP	334	**1909 BCE**	OSL
12	Sivagalai	Tamil Nadu State Archaeology	BSIP	L13-Urn-8	4008 BP	411	**1988 BCE**	OSL
13	Mayiladumparai	Tamil Nadu State Archaeology	Beta 620259	Habitation Charcoal	3310 BP	30	**2172 BCE**	AMS ^{14}C
14	Sivagalai	Tamil Nadu State Archaeology	PRL	A2-Urn-1	4447 BP	402	**2427 BCE**	OSL
15	Sivagalai	Tamil Nadu State Archaeology	PRL	L13-Urn-5	4470 BP	308	**2450 BCE**	OSL
16	Sivagalai	Tamil Nadu State Archaeology	BSIP	A2-Urn-1	4479 BP	358	**2459 BCE**	OSL
17	Adichanallur	TNSDA	Beta 709374	Habitation, Layer-4, 220 cm, charcoal	4010 BP	30	**2522 BCE**	AMS ^{14}C
18	Sivagalai	Tamil Nadu State Archaeology	Beta 583594	C3/1-Urn	4300 BP	30	**2953 BCE**	AMS ^{14}C

19	Sivagalai	Tamil Nadu State Archaeology	Beta 583592	A2-Urn-1	4540 BP	30	**3259BCE**	AMS^{14}C
20	Sivagalai	Tamil Nadu State Archaeology	Beta 583593	B3-Urn-10	4670 BP	30	**3345BCE**	AMS^{14}C

Two dates 3259 BCE and 3345 BCE fall in the fitst quarter of the 4th millennium BCE require further evidences. These dates provide another important cultural event that was experienced in India. When the Indus Valley experienced the Copper Age (Chalcolithic culture), the region south of Vindhyas might have entered into the Iron Age due to the non-availability of commercially exploitable copper ore. Thus, the Copper Age of the Indus Valley and the Iron Age of South India are most probably contemporary. The occurrence of graffiti marks in IVC and South India suggests a cultural or linguistic connection or migration of people on either side. To confirm this cultural connectivity, we require more material evidences. Future excavations and scientific dates may further clarify or strengthen the nature of the introduction of iron in India. Let us hope and wait for future evidence.

Indus script and Graffiti Marks

The two terms namely Indus script and graffiti are extensively and frequently used in academic deliberations. All the recognisable scratches engraved on the ceramics in south India and to some extent on Indus ceramics were designated as graffiti. The one engraved on seals and other metal objects of the IVC is designated as a script. Quite interestingly, the signs engraved on the seal were called as script whereas the signs engraved on ceramics were called as graffiti. Though both the signs were written by the same people, still they were respectively differentiated and documented as script and graffiti. However, the extensive comparative study of graffiti marks and Indus scripts made in the present study evidently suggests that both are undeciphered signs. These undeciphered signs should be called either as script or graffiti. In the South Indian context, all these signs were reported as graffiti marks and the same designation is being used in the present study too. These graffiti marks received the attention of scholars as early as the later part of the 19th century and they have been studied for more than a century with several time gaps.

The beginning of documentation of graffiti marks goes back as early as 1881. Beginning with Branfill (1881:1-12), E.H.Hunt, G.Yazdani, B.K.Thapar, B.B.Lal, S.R.Rao, Leshnik, S.Gurumurthy, Seneviratne, K.Rajan and many others continued their research on this subject. Most of the early scholars concentrated on the graffiti marks encountered in Iron Age megalithic graves whereas B.B.Lal compared the graffiti marks with Indus script and provided a new direction and dimension to these studies. Following the footsteps of B.B.Lal, S.Gurumurthy compiled the graffiti marks and published a book *Deciphering the Indus Script* (Gurumurthy 1999). He collected and presented data in the book recovered from different cultural zones of India. He collected nearly 3056 graffiti signs from 108 archaeological sites. Out of 3056 signs, he assigned 2288 signs as independent signs, 768 signs as ligatures and 72 signs as having resemblance with Brahmi scripts. He identified 513 signs as important signs out of which nearly 84 signs are similar to Indus script. Out of 84 signs, 32 signs belong to Central Chalcolithic culture and the remaining 52 signs belong to South India (Gurumurthy 1999:125). He considered that these signs represent pictograph, ideograph and logograph or the combination of all these three systems of writing (Gurumurthy 1999:129). Based on the resemblance, he advocated that the Harappan pictographs reached the south Indian Iron Age through Central Chalcolithic culture and they were written from right to left as of Indus script and the language deployed in these scripts is Tamil. With all respects, Gurumurthy's work on graffiti signs could be considered as the last dedicated attempt at graffiti marks in South India..

Graffiti Analysis

It is believed that the faithful documentation of these graffiti marks and contextual analysis may help to decipher these undeciphered signs in future. The decipherment of these graffiti marks may also help us to decipher the Indus script or vice-versa. Faithful documentation is the only answer to these vexing problems as these graffiti marks serve as one of the trajectories for the benefit of future researchers. The project entitled 'Documemntation and Digitization of Graffiti and Damili (Tamil-Brahmi) Inscribed Postherds of Tamil Nadu' by the Tamil Nadu State Department of Archaeology plays a crucial role in this regard. The datasets from the same suggest that 15184 graffiti-bearing potsherds have been reported so far from 140 sites in Tamil Nadu and nearly 14165 sherds were documented (Fig. 6; Table 3). Out of which nearly 2107 signs have been morphologically catagorized within a group of 42 base signs, 544 variants and 1521 composites (Fig. 7; Table. 4). Similar to base signs or any additional strokes added to the base signs is considered as variants of base signs. A group of signs containing more than one base sign is considered as composite sign. Explorations and excavations are in progress at several sites and the numbers of graffiti-bearing sherds will increase manifold in future. Future additional documentation may give a better picture and direction on these issues.

TABLE-3 GRAFFITI YIELDING SITES IN TAMIL NADU

GRAFFITI YIELDING SITES IN TAMIL NADU

S No	Site	Taluk	District	No. of Sherds	Documented sherds
1	Adichanallur	Srivaikundam	Thoothukudi	932	932
2	Akara-oratur	Nagapattinam	Nagapattinam	3	0
3	Alagankulam	Ramanathapuram	Ramanathapuram	376	376
4	Alagapuri	Sivagangai	Sivagangai	1	0
5	Alagarai	Tottiyam	Tiruchirappalli	58	0
6	Alangamadai	Periyakulam	Theni	1	0
7	Amanakkampatti	Marungapuri	Trichy	1	0
8	Ambal	Nannilam	Nagapattinam	1	1
9	Amur	Thiruporur	Chengalpattu	1	0
10	Andippatti	Chengam	Tiruvannamalai	3	0
11	Anukkanattam	Manapparai	Tiruchirappalli	1	0
12	Appukallu	Anaikkattu	Vellore	4	4
13	Aranthangi	Arantangi	Pudukkottai	1	0
14	Arcot	Arcot	Ranipet	7	0
15	Arikamedu	Pondicherry	Pondicherry	8	0
16	Ariya Nattam	Ulundurpettai	Kallakurichi	15	15
17	Arungkurukaipudur	Tirukkoyilur	Kallakuruchi	1	0
18	Avudaiyarkoil	Avudaiyarkovil	Pudukkottai	1	0
19	Balakrishnapuram	Peravurani	Thanjavur	1	0
20	Chettimedu	Sembanarkoyil	Mayiladuturai	4	4
21	Chittakkattur	Manmangalam	Karur	1	0
22	Durairajapuram	Bodinayakkanur	Theni	1	0
23	Edaiyarpalayam	Sulur	Coimbatore	1	0

24	Elavamalai	Erode	Erode	1	0
25	Enadi	Tiruppuvanam	Sivagangai	1	0
26	Enampakkam	Ellapuram	Tiruvallur	1	1
27	Ilayankudi	Ilayankudi	Sivagangai	1	0
28	Kalapatti	Coimbatore North	Coimbatore	1	0
29	Kaliyandur	Tirupuvanam	Sivagangai	1	0
30	Kaliyapanallur	Tarangampadi	Nagapattinam	1	0
31	Kanchipuram	Kanchipuram	Kanchipuram	15	15
32	Kandiyur	Kulithalai	Karur	1	0
33	Kaniyampundi	Avinashi	Tiruppur	1	0
34	Karur	Karur	Karur	217	217
35	Keeladi (ASI 797+ TNSDA 1335)	Thiruppuvanam	Sivagangai	2132	2132
36	Kilnamandi	Vandavasi	Tiruvannamalai	103	103
37	Kodumanal (TNSDA 2034+TU-PU 598)	Perundurai	Erode	2632	1955
38	Kokkarasan Kottai	Kadaladi	Ramanathapuram	1	0
39	Komalikadu	Mettur	Salem	1	0
40	Kondagai	Thiruppuvanam	Sivagangai	ɬ	θ
41	Kongalnagaram	Udumalpettai	Tiruppur	298	298
42	Korkai	Eral	Thoothukudi	422	422
43	Koththamangalam	Vikkiravandi	Villupuram	30	30
44	Kottaimedu	Omalur	Salem	1	0
45	Kottampalayam	Mohanur	Namakkal	1	0
46	Kotthanur	Kundadam	Tiruppur	1	0
47	Kovalanpottal	Madakulam	South Madurai	1	0
48	Kudalur	Uthamapalayam	Theni	1	0
49	Kudumiyanmalai	Iluppur	Pudukkottai	1	0
50	Maharajapuram	Tiruvaiyaru	Thanjavur	1	0
51	Maligaimedu	Panruti	Cuddalore	1	0
52	Mallapadi	Bargur	Krishnagiri	1	1
53	Mallingapuram	Uttamapalyam	Teni	1	0
54	Mangadu	Mettur	Salem	1	0
55	Mangalanadu	Aranthangi	Pudukkottai	1	0
56	Mangudi	Sankarankovil	Tenkasi	152	152
57	Mangulam	Melur	Madurai	42	42
58	Marungur	Panruti	Cuddalore	1	0
59	Mathagam	Avudaiyarkovil	Pudukkottai	6	6
60	Mayiladumparai	Pochampalli	Krishnagiri	1	1
61	Mela Sindalachery	Uttamapalyam	Teni	1	0
62	Melaikkudi	Paramakudi	Ramanathapuram	1	0
63	Melakarantai	Ettayapuram	Thoothukudi	1	0
64	Melsittamur	Gingee	Villupuram	2	2

65	Mettupatti	Vadipatti	Madurai	1	0
66	Milalainattam	Tiruviḍaimarudur	Thanjavur	1	0
67	Modur	Karimangalam	Dharmapuri	5	0
68	Mondippatti	Manapparai	Tiruchirappalli	1	0
69	Mottur	Tirupathur	Vellore	1	0
70	Mudrapalayam	Ozhukarai	Puducherry	1	0
71	Muthupatti	Thirumangalam	Madurai	1	0
72	Mutukkankulam	Kariapatti	Virudhunagar	1	0
73	Nallur	Marungapuri	Tiruchirappalli	1	0
74	Nalur	Tiruchuli	Virudhunagar	1	0
75	Narayanadevanpatti	Uthamapalayam	Theni	1	0
76	Nariyutthu	Andipatti	Theni	1	0
77	Nattam	Ambasamudram	Tirunelveli	1	0
78	Nedungur	Aravakurichi	Karur	79	79
79	Nerur	Manmangalam	Karur	1	0
80	Nochchiyam	Perambalur	Perambalur	1	0
81	Odugattur	Anaikkattu	Vellore	1	0
82	Omalur	Omalur	Selam	1	0
83	Palur	Panruti	Cuddalore	1	1
84	Parikkal Nattam	Ulundurpettai	Kallakurichchi	40	40
85	Pattaraiperumpudur	Tiruvallur	Tiruvallur	532	532
86	Perumpalai	Pennagaram	Dharmapuri	1028	1028
87	Perur	Perur	Coimbatore	1	0
88	Pidariyendal	Ramanathapuram	Paramakudi	1	0
89	Ponnagani	Kinaththukadavu	Coimbatore	1	0
90	Poompuhar	Sirkazhi	Mayiladuturai	45	45
91	Porunthal	Palani	Dindigul	97	0
92	Puduppatti	Uthamapalayam	Theni	1	0
93	Punaiyankudiyiruppu	Thirumayam	Pudukkottai	1	0
94	Ramasamypuram	Aranthangi	Pudukkottai	1	0
95	Salamedu	Villupuram	Villupuram	8	8
96	Sambalmedu	Uthamapalayam	Theni	1	0
97	Sandaiyur	Nilakottai	Dindigul	1	0
98	Sanur	Madhurantakam	Chengalpattu	1	0
99	Sembiyankandiyur	Mayiladuturai	Nagapattinam	3	3
100	Sendamangalam	Ulundurpettai	Villupuram	11	11
101	Sengottai	Vilathikulam	Thoothukudi	1	0
102	Senjikuppam	Thirunavalur	Villupuram	1	0
103	Senppaeratti	Karur	Karur	1	0
104	Siruthavur	Thiruporur	Chengalpattu	1	0
105	Sivagalai	Eral	Thoothukudi	150	150
106	Sivagiriammankoyil	Kodumudi	Erode	1	0
107	Sulapuram	Peraiyur	Madurai	2	0

108	Sulur	Coimbatore North	Coimbatore	1	1
109	Suttukkeni	Villianur	Puducherry	1	0
110	T. Karungulam	Paramakudi	Ramanathapuram	1	0
111	T.Kalluppatti	Peraiyur	Madurai	1	0
112	Tennur	Sirkazhi	Mayiladuthurai	1	0
113	Teriruveli	Mudukulattur	Ramanathapuram	227	227
114	Thamaraikulam	Palani	Dindigul	15	15
115	Thelunganur	Mettur	Salem	4	4
116	Thirunathamkonram	Ulundurpettai	Kallakurichi	2	2
117	Thiyagadurgam	Kallakuruchi	Kallakuruchi	1	0
118	Thulukkarpatti	Radhapuram	Thirunelveli	4797	4797
119	Tirukkampuliyur	Krishnarayapuram	Karur	9	9
120	Tirukkolur	Eral	Thoothukudi	1	0
121	Tirukkovilur	Tirukkovilur	Kallakurichi	14	14
122	Tiruvamattur	Villupuram	Villupuram	1	0
123	Tiruvarur	Tiruvarur	Tiruvarur	1	0
124	Tiruverkadu	Poonamalle	Tiruvallur	1	1
125	Tiruverumbur	Tiruvermbur	Trichy	1	0
126	Tiruvidaikazhi	Nagapattinam	Tarangampadi	1	0
127	Tittai	Sirkazhi	Mayiladuthurai	1	0
128	Uraiyur	Trichirappalli	Trichirapalli	71	0
129	Usur	Usur	Vellore	1	0
130	Uttukkadu	Uthamapalayam	Theni	1	0
131	Valasai	Gudiyattam	Vellore	37	37
132	Vallam	Thanjavur	Thanjavur	2	0
133	Vallanadu-Agaram	Srivaikundam	Thoothukudi	449	449
134	Vellalur	Coimbatore South	Coimbatore	2	2
135	Vellar	Omalur	Salem	1	0
136	Vembakkottai	Vembakottai	Virudhunagar	1	0
137	Veppathur	Tiruvidaimaruthur	Thanjavur	1	0
138	Vidoor	Vembakottai	Virudhunagar	1	1
139	Vinnamangalam	Arni	Tiruvannamalai	1	0
140	Viralur	Viralimalai	Pudukkottai	1	0
			Total	**15184**	**14165**

Note: Several sites were reported with graffiti-bearing sherds both in explorations and excavations. Some of the sherds are not available for documentation. In that case, the number of sherds is given as one sherd. The real number of sherds may be still higher.

TABLE 4: NUMBER OF OCCURRENCES OF BASE SIGNS AND SUB-SIGNS						
S. No	Base sign	Base sign and its variants	Base sign as composites	Total number of variants	Total number of composites	Total
1	1.0	1.1 – 1.39	1.1C-1.124C	39	124	164
2	2.0	2.1 – 2.37	2.1C- 2.179C	37	179	217
3	3.0	3.1 – 3.27	3.1C – 3.105C	27	105	133
4	4.0	4.1-4.3	4.1C-4.19C	3	19	23
5	5.0	5.1-5.16	5.1C-5.35C	16	35	52
6	6.0	6.1-6.9	6.1C-6.40C	9	40	50
7	7.0	7.1-7.4	7.1C-7.32C	4	32	37
8	8.0	8.1-8.5	8.1C-8.7C	5	7	13
9	9.0	9.1-9.6	9.1C-9.42C	6	42	49
10	10.0	10.1-10.4	10.1C-10.5C	4	5	10
11	11.0	11.1-11.12	11.1C-11.59C	12	59	72
12	12.0	12.1-12.3	12.1C-12.3C	3	3	7
13	13.0	13.1-13.35	13.1C-13.66C	35	66	102
14	14.0	14.1-14.15	14.1C-14.16C	15	16	32
15	15.0	15.1-15.9	15.1C-15.83C	9	83	93
16	16.0	16.1-16.7	16.1C-16.58C	8	58	67
17	17.0	17.1-17.16	17.1C-17.41C	16	41	58
18	18.0	18.1-18.10	18.1C-18.5C	10	5	16
19	19.0	19.1-19.6	19.1C-19.28C	6	28	35
20	20.0	20.1-20.6	0	6	0	7
21	21.0	21.1-21.11	21.1C-21.38C	11	38	50
22	22.0	22.1-22.16	22.1C-22.35C	16	35	52
23	23.0	23.1-23.4	23.1C-23.38C	4	38	43
24	24.0	24.1-2.9	24.1C-24.20C	9	20	30
25	25.0	25.1-25.8	25.1C-25.21C	8	21	30
26	26.0	26.1-26.5	26.1C-26.10C	5	10	16
27	27.0	27.1-27.6	27.1C-27.2C	6	2	9
28	28.0	28.1-28.12	28.1C-28.26C	12	26	39
29	29.0	29.1-29.24	29.1C-29.22C	24	22	47
30	30.0	30.1-30.19	30.1C-30.70C	19	70	90
31	31.0	31.1-31.14	31.1C-31.15C	14	15	30
32	32.0	32.1-32.10	32.1C-32.20C	10	20	31
33	33.0	33.1-33.17	33.1C-33.15C	17	15	33
34	34.0	34.1-34.6	34.1C-34.59C	6	59	66
35	35.0	35.1-35.18	35.1C-35.18C	18	18	37
36	36.0	36.1-36.23	36.1C-36.51C	23	51	75
37	37.0	37.1-37.27	37.1C-37.40C	27	40	68
38	38.0	38.1-38.15	38.1C-38.21C	15	21	37
39	39.0	39.1-39.18	39.1C-39.22C	18	22	41
40	40.0	40.1	40.1C-40.3C	1	3	5
41	41.0	41.1-41.7	41.1C-41.20C	7	20	28
42	42.0	42.1-42.4	42.1C-42.8C	4	8	13
			Total	**544**	**1521**	**2107**

Fig. 6: Graffiti sherds yielding sites of Tamil Nadu

GRAFFITI YIELDING SITES IN TAMIL NADU

Several signs encountered in Tamil Nadu had exact parallels in the Indus scripts. The signs such as 1.0, 2.0, 3.0, 4.10, 7.10, 9.0, 11.0, 13,0, 14.0, 15.0, 17.0, 18.0, 19.0, 23.0, 25.0, 27.0, 29.0, 30.0, 31.0, 32.0, 33.0, 34.0, 35.0, 36.0, 37.0, 39.0 and 41.0 could be cited as finest examples (the exact parallel Indus signs are 86, 125, 130, 133, 134, 136, 137, 148, 149, 162, 168, 176, 177, 190, 204, 210, 211, 214, 225, 304, 328, and 365)[1]. Likewise, some signs had near parallels. These signs probably evolved from the base signs. A few such parallels were closely examined and convincingly interpreted by scholars like Asko Parpola (Parpola 2008:111-131) and Iravatham Mahadevan (Mahadevan 2014:1-44; 2015:1-24). In the academic discussions, the signs made on seals and ceramics were identified as scripts and graffiti marks. The ones found on seals and sealings were reported as script and the matching signs found engraved on ceramics were documented as scripts. Other scratches are considered or reported as graffiti marks. The comparative study of South Indian graffiti marks with Indus scripts and Indus graffiti marks suggests that there are parallels in both types. So, it is very difficult to consider the signs engraved on seals as scripts and the ones found on ceramics as graffiti. Either we should treat them both as script or graffiti as both of them were engraved by contemporary society. The two different terms used for identical signs make the analysis a little difficult. The limited data from Tamil Nadu further restricted our analysis to a greater extent. Our research is at the embryonic stage due to limited data at our disposal. Irrespective of this lacunae, we made an earnest attempt to compare the South Indian graffiti signs with Indus signs.

Out of 42 base signs and their variants, nearly 60% of them found their parallels in the Indus script. Quite interestingly, more than 90% of the graffiti marks of South India and the graffiti marks of the Indus Valley Civilization had parallels (Plates 1-100). The sign 1.0 is found facing in all directions, but mostly facing up, whereas in IVC seals it is always found facing right in sealings and left in seals (Plates 1-5). There is an example of facing down both in IVC and South Indian graffiti. Quite interestingly, the composite form (sign 1.116) is found exact parallels (Plate 6). Sign 2.0 both straight (Plates 7-8) and inverted (sign 2.1) are found in Indus seals and graffiti (Plates 9-10). The composite form of having base sign 2.0 with 39.0 is reported at Rakhigarhi (Plate 11). In the same way, a pair of sign 2.0 is reported but restricted to Indus graffiti (Plates 12-13). Sign 3.0 is the common one found both in habitation cuttings and graves as one identified at Kodumunal (Plates 15-16). The one identified in graves at Kodumanal is considered as a clan symbol. This particular sign is absent in Indus seals but it is noticed in Indus graffiti (Plates 15-16). The composite form of sign 7.10 had parallels in the Indus script (Plate 19). In Indus seals, the sign 9.0 is found in association with vertical lines whereas in Indus graffiti and South Indian graffiti, they are found independently (Plates 22-31). The base and composite forms of sign 9.14C, 9.18C and 11.0 had exact parallels in IVC (Plates 32-36). The upward-facing arrow marks with triangle or flower-shaped heads/tips (sign 13.0) had similarities. In the case of fish

[1] The parallel Indus sign numbers are as per the sign list provided by Iravatham Mahadevan (1977) in the book The Indus Script – Text, Concordance and Tables, Archaeological Survey of India, New Delhi.

BASIC SIGNS

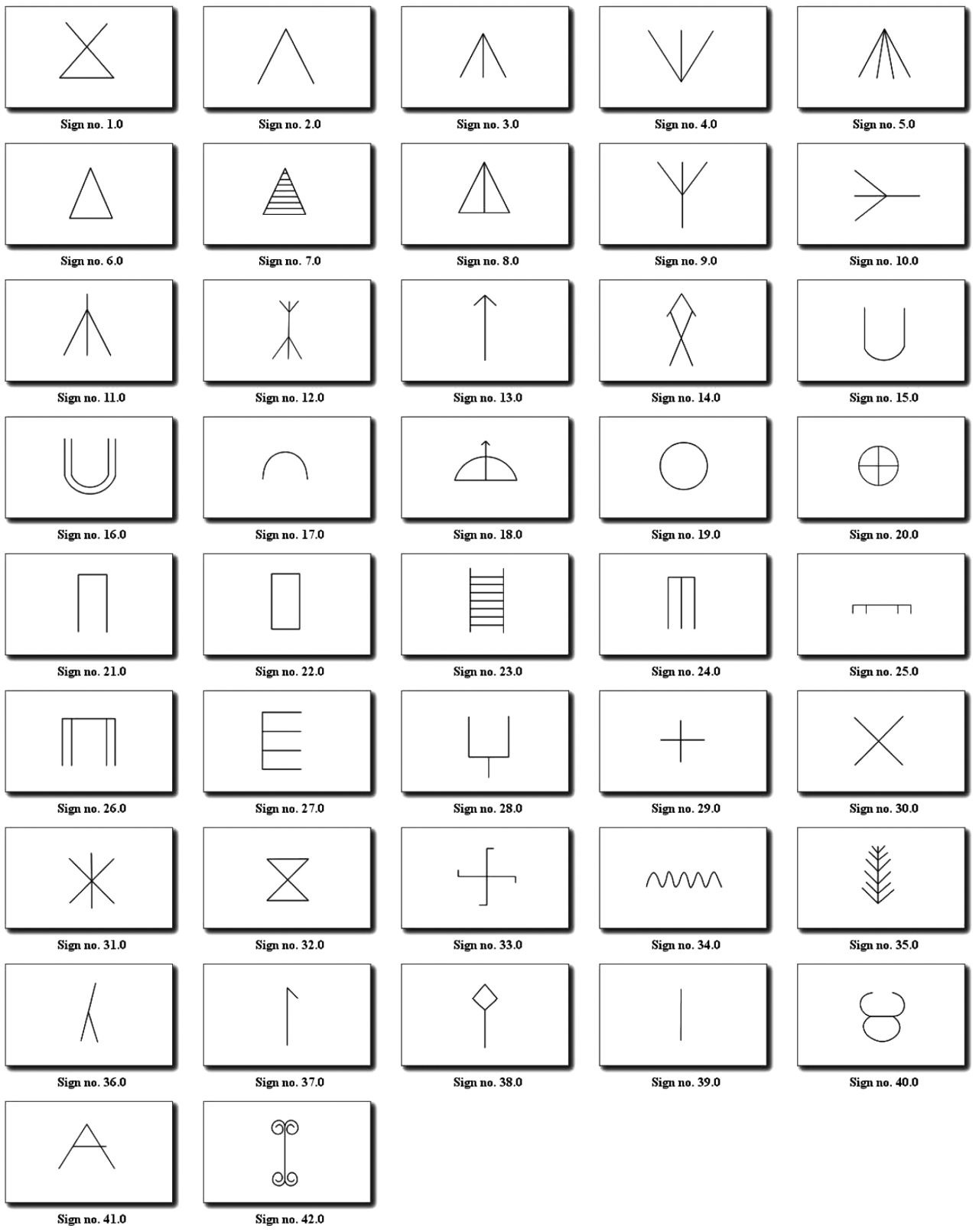

Fig. 7: Base signs

signs (sign 14.0), they were found both in stylish and exact forms. The former one is reported in both places (Plates 41-43). The U-shaped sign (sign 15.0) is reported in both places (Plates 44-46). The famous Indus jar symbol is reported without arms at the top (sign 16.0) in several places (Plates 44-46). Interestingly, this sign is mostly found at the initial stage of the composite forms The sign (sign 17.7) had exact parallels both in Indus and South Indian graffiti (Plate 51). The bow and arrow mark (sign 18.0) is found facing in all directions whereas in Indus seals/sealings it is found facing either right or left depending on the object (Plates 52-53). A plain circle and a circle having a plus mark or pokes on the interior (sign 19.0 and 20.0) had several examples in both places (Plates 54-57). In the same way, the plain rectangle or rectangle divided into four or more boxes had parallels (sign 21.0, 22.2, 22.4 and 22.23) (Plates 59-62). The ladder symbol (sign 23.0) is mostly found in the initial stage of the composite form and in Indus script it is found either at the initial or terminal stages depending upon whether it is a seal or sealing (Plates 63-64). Likewise, signs 25.6 and 27.4 had several parallels. The sign 1.25 had two arms or oblique strokes attached to the right oblique line on the exterior top whereas in Indus script it is noticed on both arms (Plate 66). Similarly, sign 28.1 had a vertical line placed in the middle top of the rectangle whereas in the Indus, a small rectangle was attached in place of a vertical line (Plate 67). The square box both plain or divided into four or many boxes (sign 29.0) is common at both places (Plates 68-70). The X-shaped sign, the star-like sign and their composites (sign 29.0 and 30.8C) are common (Plates 71-76). The hourglass sign (sign 32.0) placed horizontally and vertically has similar occurrences both in seals and ceramics (Plates 77-78). The clockwise and anti-clockwise turned swastika-like signs (sign 33.0) are both in the Indus and South India (Plates 79-86). The wavy line (sign 34.0) is always found in association with another base sign resulting in a composite form (Plates 87-88). Such is the case with the Indus script also. The flower sign (sign 35.0), inverted Y-like sign (sign 36.0), Z-like sign (sign 37.0), A-like sign (sign 41.0) and star sign (sign 73.0) are some of the other common signs encountered at both places. Thus, the exact shapes and their variants found both independently and in composite forms vividly indicate that they were not merely accidental. It is believed that the Indus script or signs would have not disappeared without any traces rather they would have transformed or evolved into different forms. The present study is more of a morphological approach rather than any linguistics.

The Indus seals and artefacts were reported in the cultural zones of Mesopotamian civilization but in India, as recent studies suggested, several resource zones met the needs of the Indus communities by supplying food products, raw materials and finished goods. One hardly gets any Indus material in these supply zones. Indus traders might have had intensive direct commercial contact with the Mesopotamians and the trade wind must have been in favour of Indus traders. The non-availability of Mesopotamian artefacts in Indus sites suggests that trade might have been handled by Indus traders and the balance of trade in favour of IVC traders. The commercial benefit led to the settlements of Harappans in the West. Such a situation might have not prevailed in other parts of India leading to the absence of Harappan artefacts in supply zones. The occurrences of identical graffiti marks in South India suggest a kind of cultural contact. One needs a few more tangible data to support or strengthen the view.The recent scientific dates forced us to review this perception. The chronometric dates clearly demonstrated that the Iron Age of south India is contemporary to the Copper Age of north

India. If both are contemporary, there is a possibility of cultural exchanges either through direct or intermediate zones. The existence of identical graffiti marks could be understood or explained under this prescription. The occurrence of a large number of carnelian and agate beads and high-tin bronze objects particularly from Iron Age graves gives a clue for the contacts as carnelian, agate, copper and tin have to come from the north. However, a few more cultural items are required to prove them convincingly. The documentation of graffiti-inscribed potsherds is one such item that needs close attention. Future explorations, excavations, scientific investigations and historical linguistic analysis may give a better picture of these thought-provoking cultural and linguistic issues.

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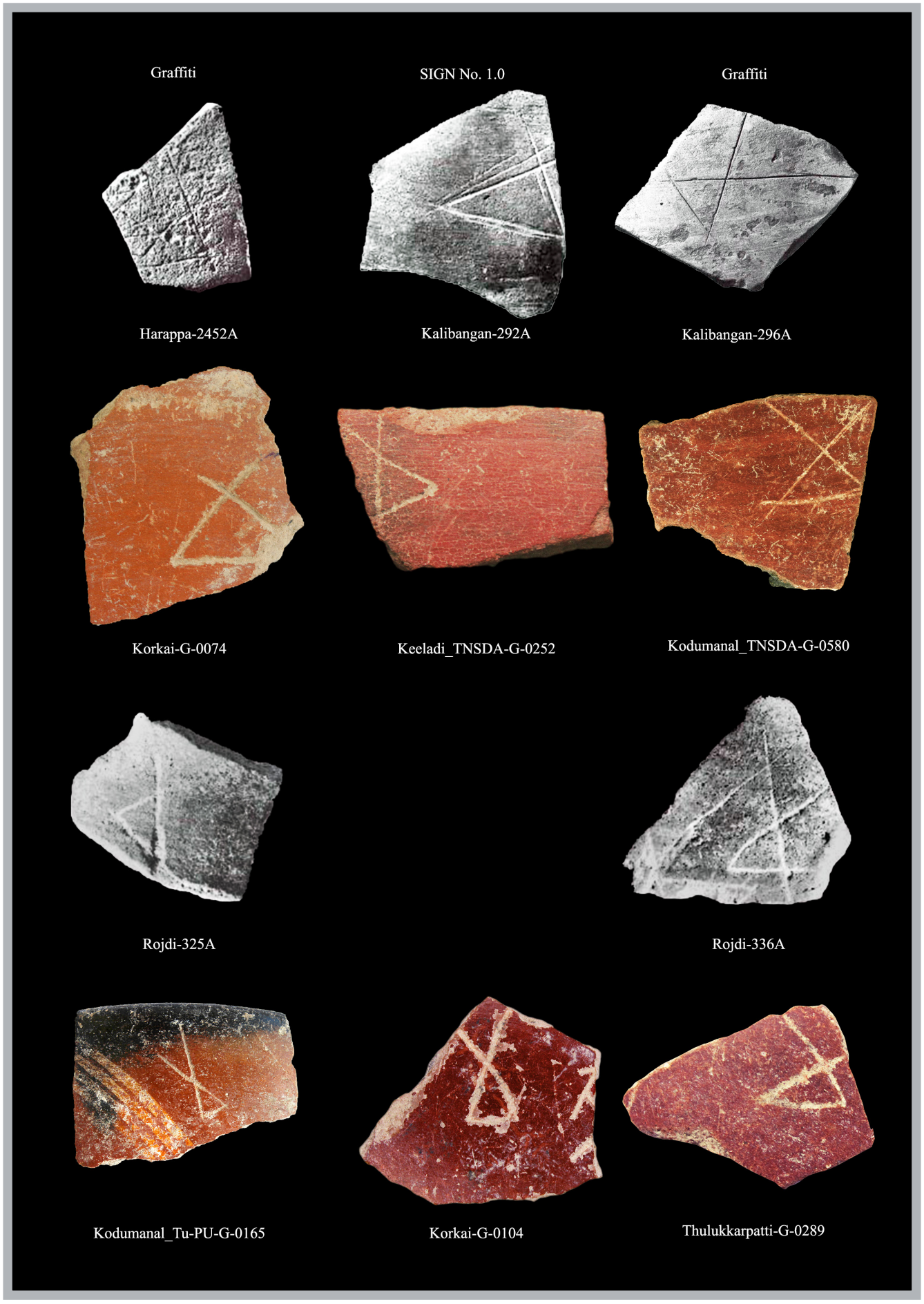
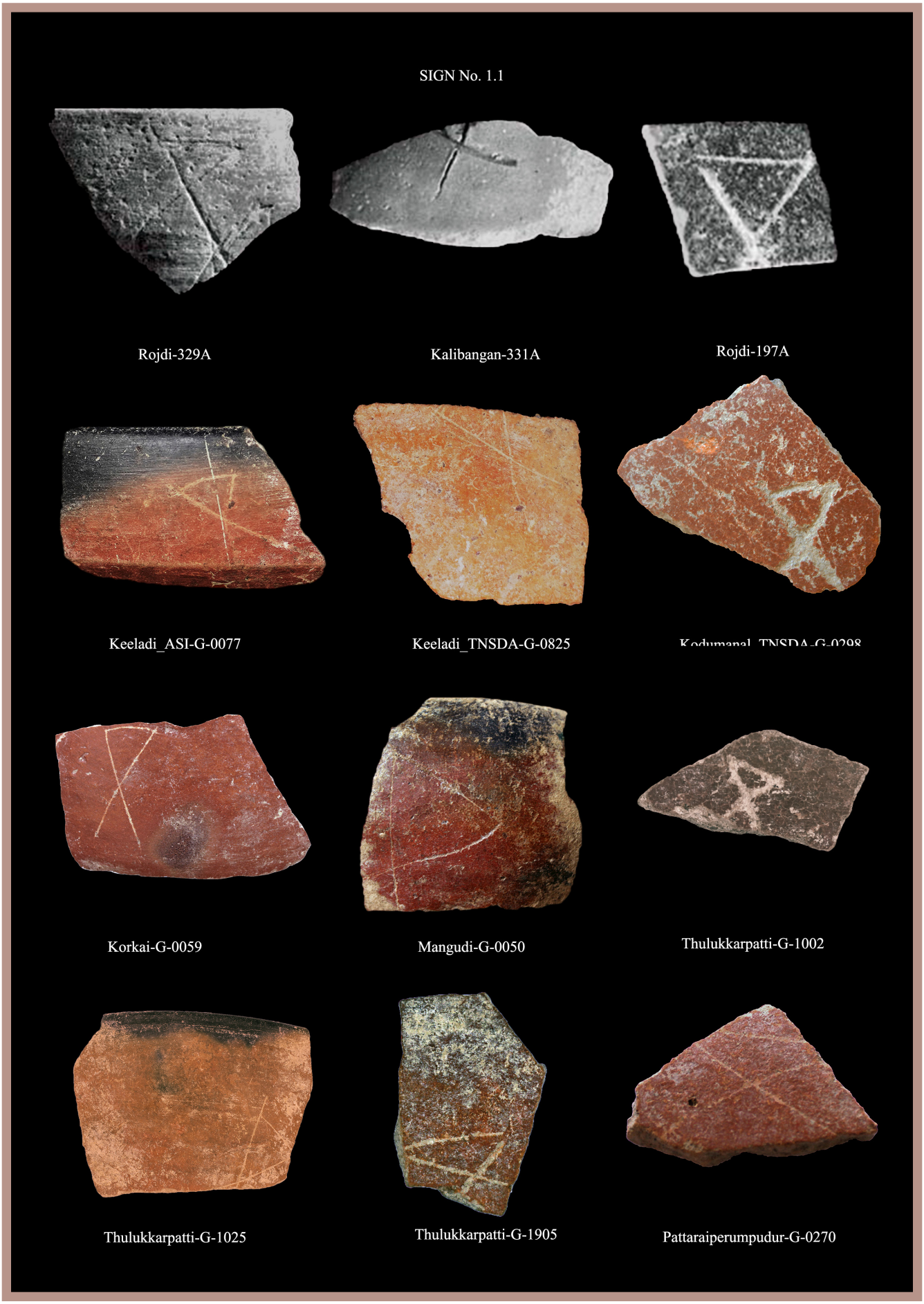


Plate-1_IVC_Sign_1.0



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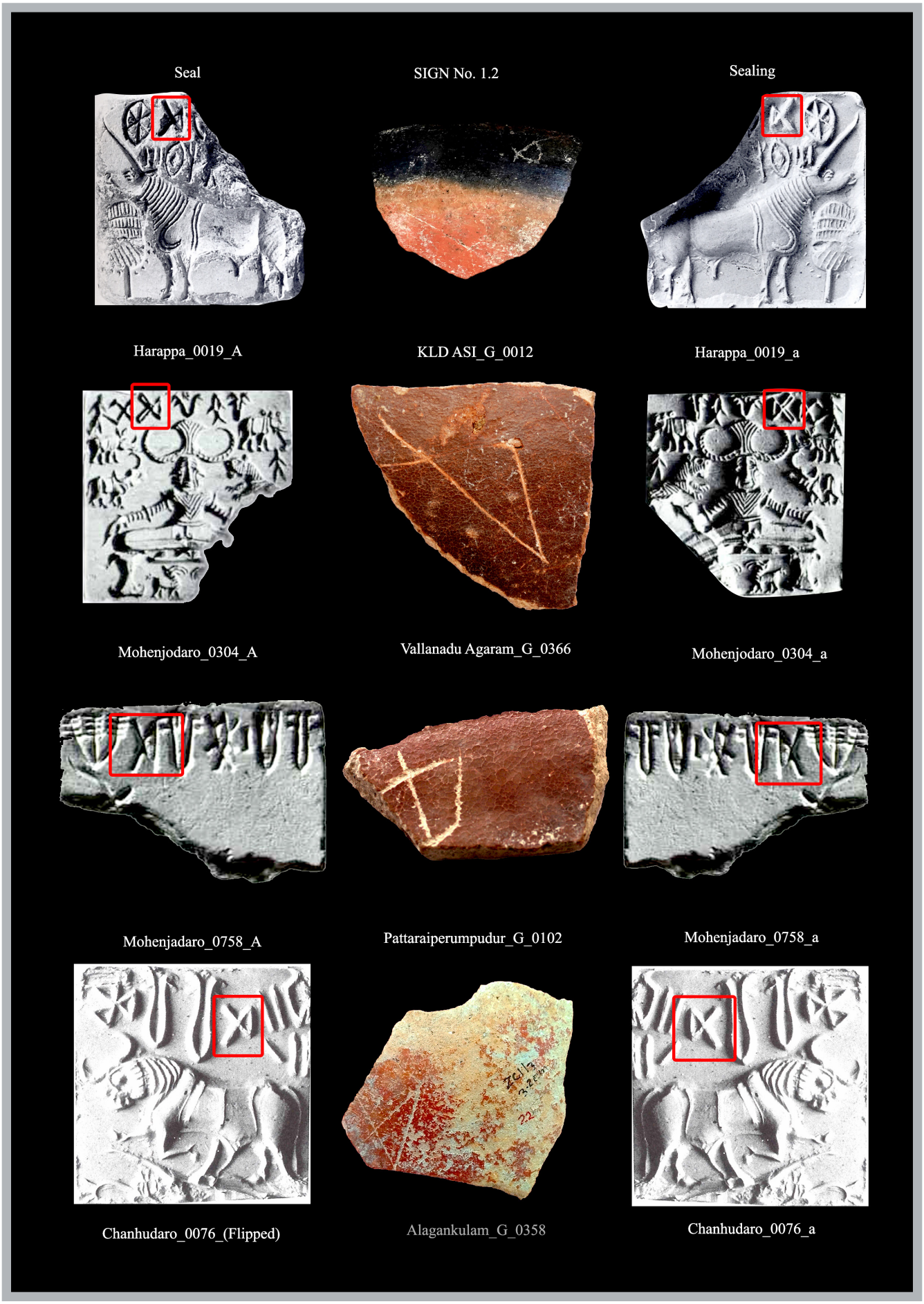

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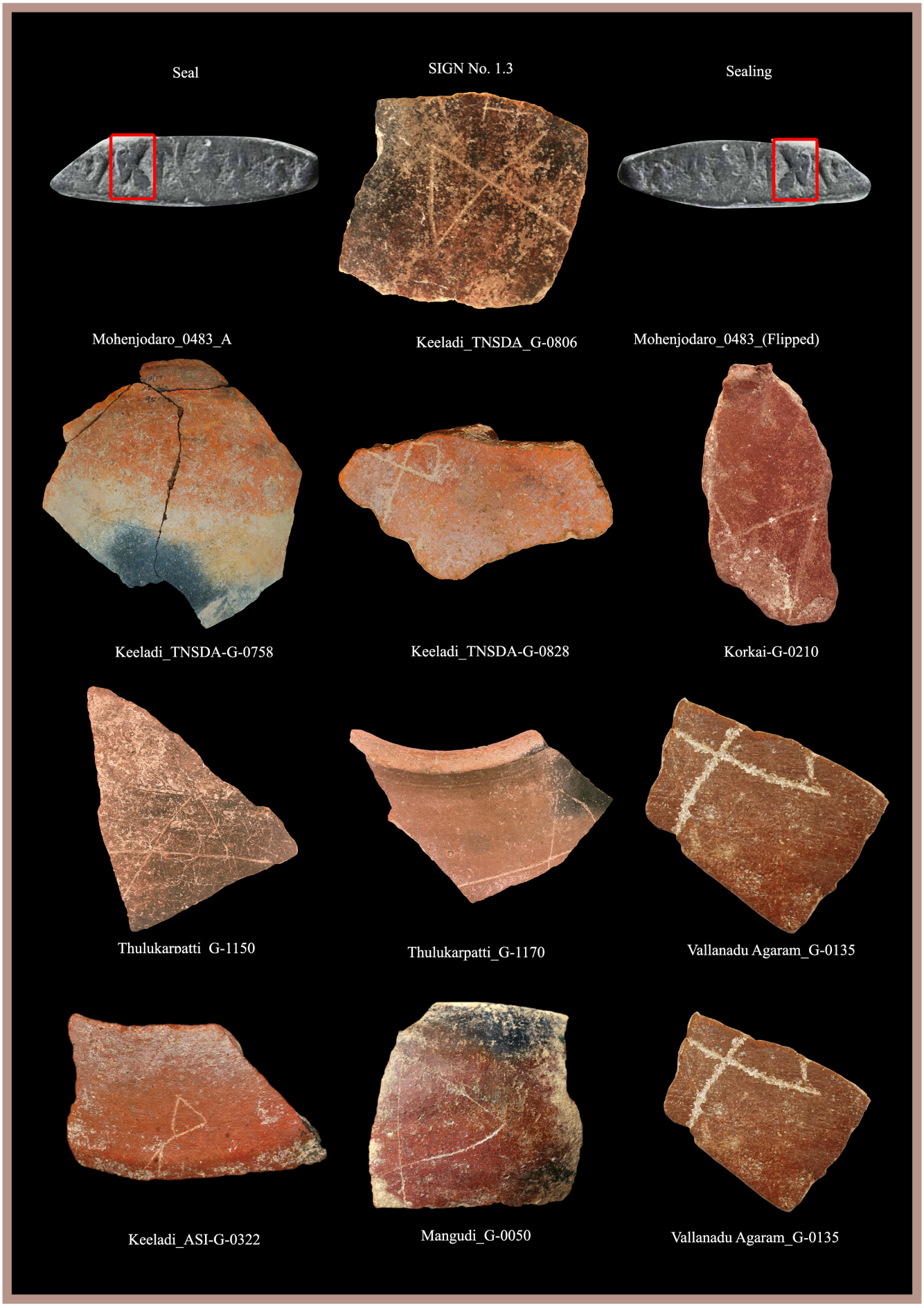

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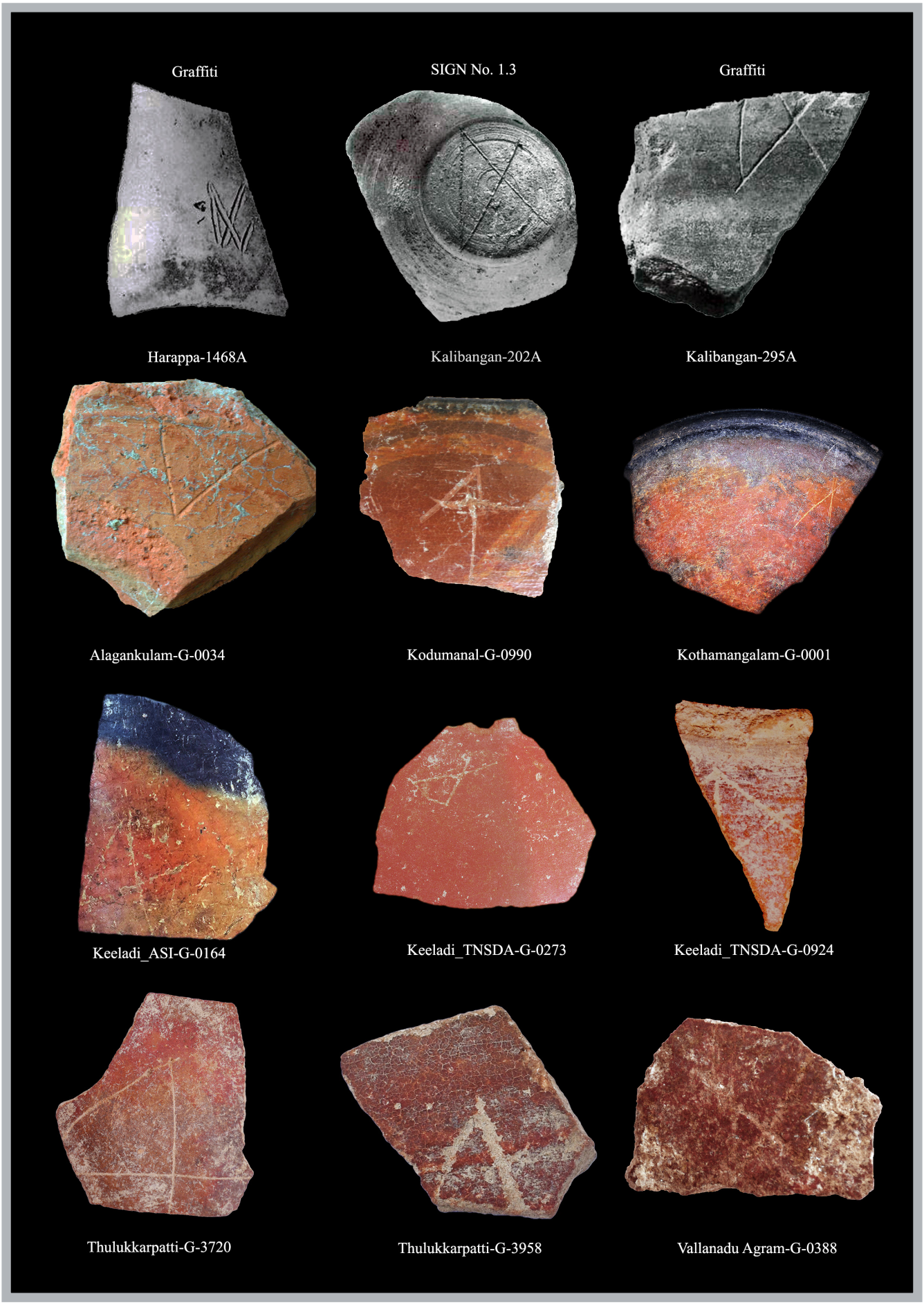


Plate-5_IVC_Sign_1.3

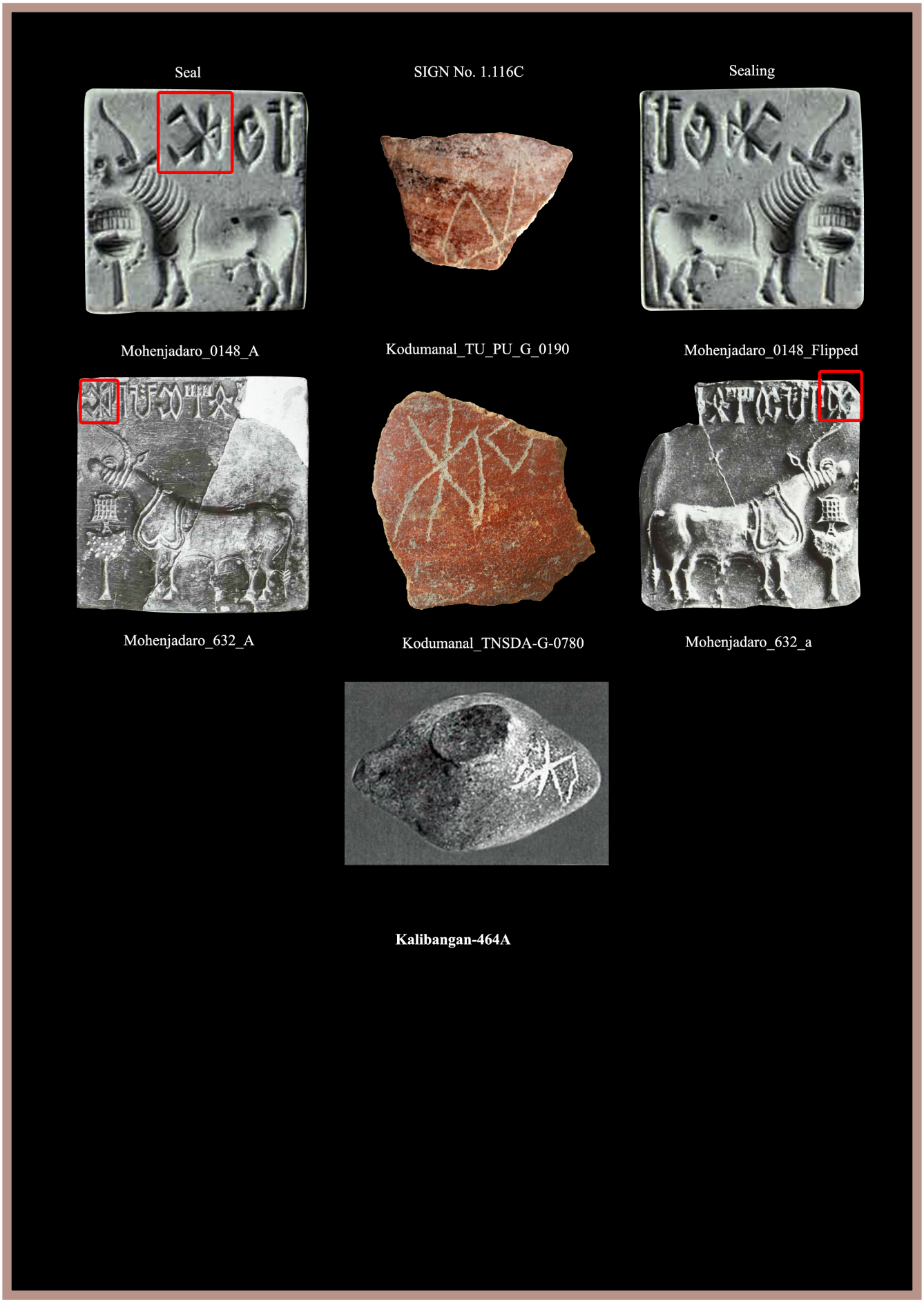


Plate-6_IVC_Sign_1.116C

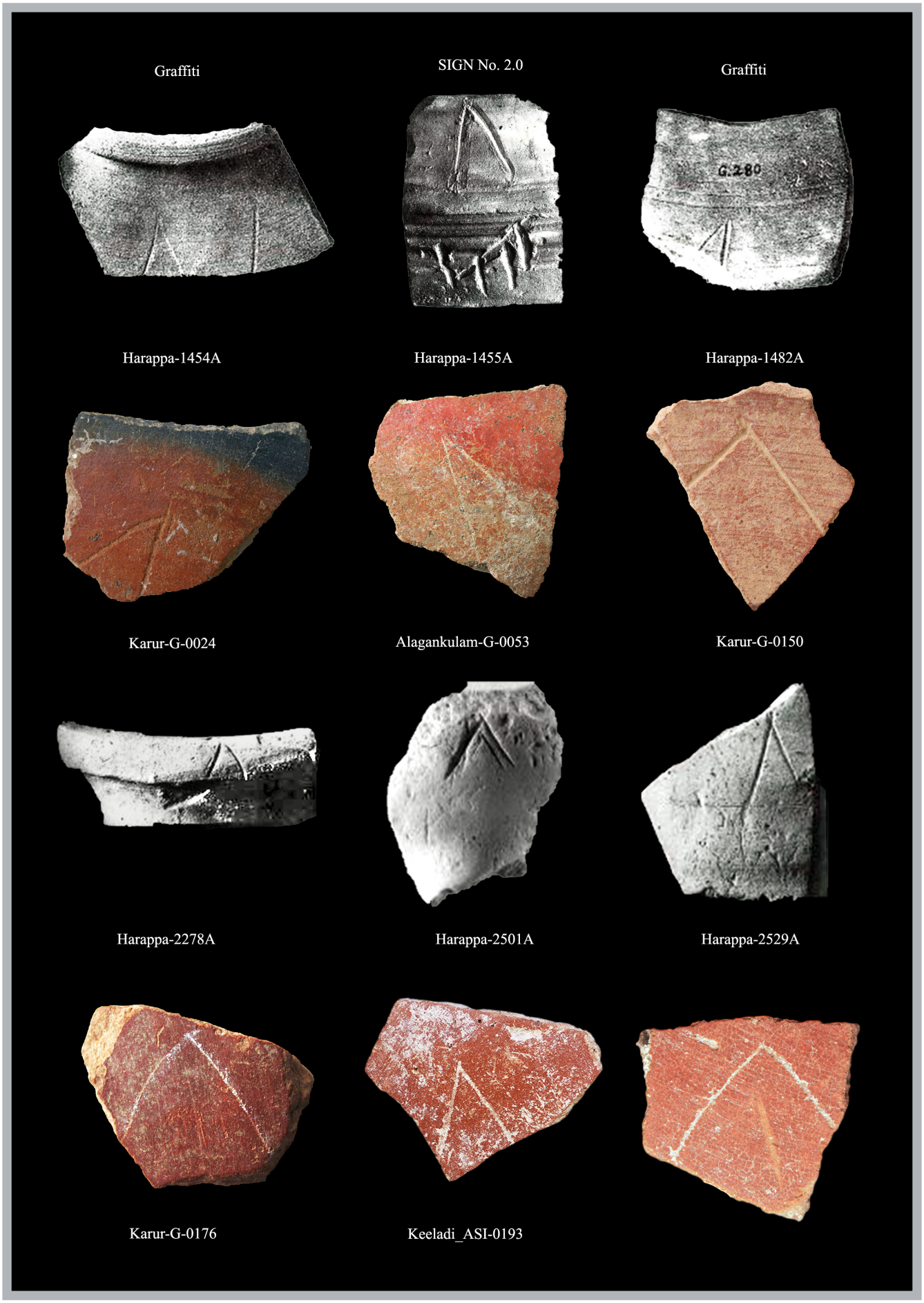


Plate-7_IVC_Sign_2.0

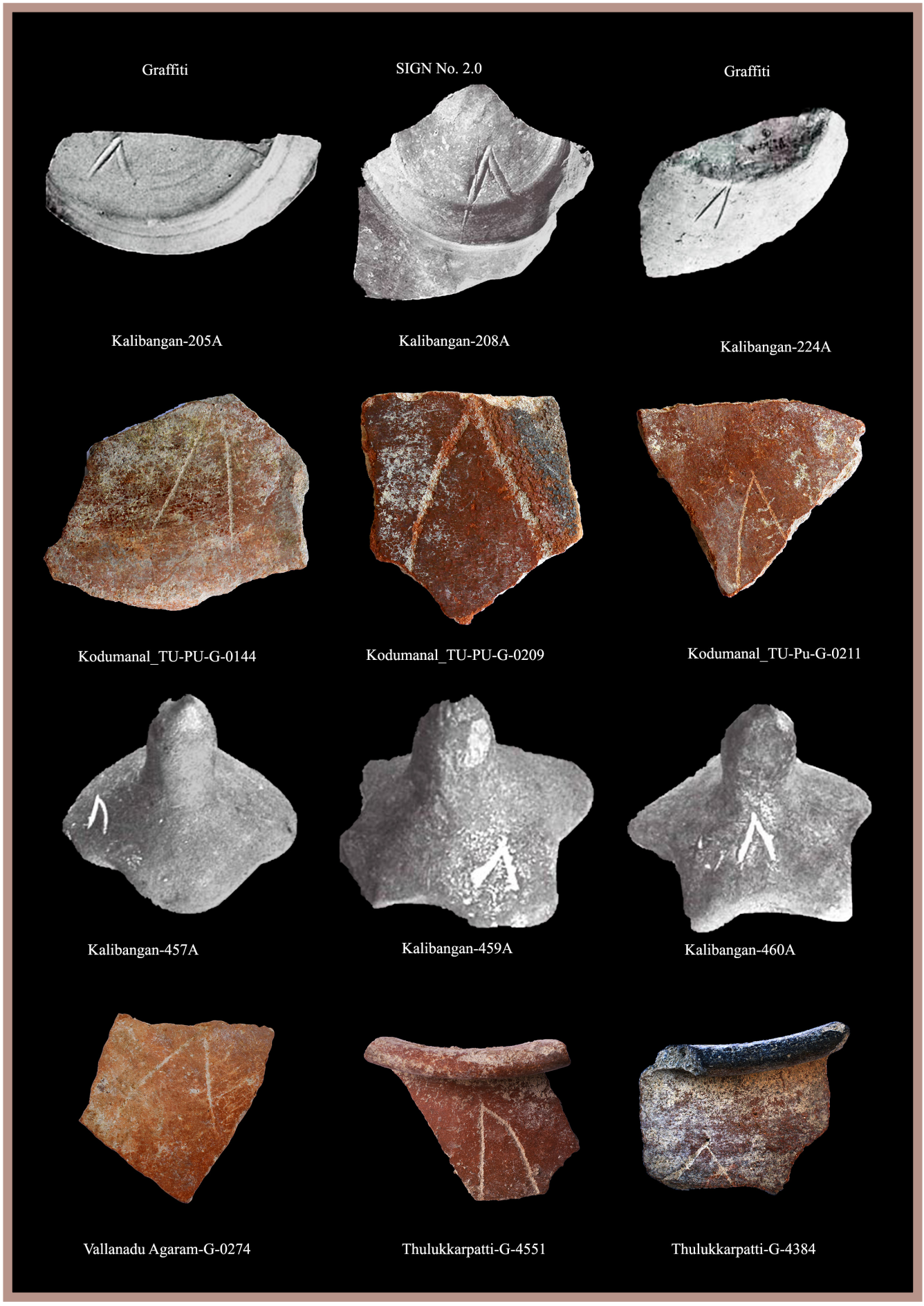


Plate-8_IVC_Sign_2.0

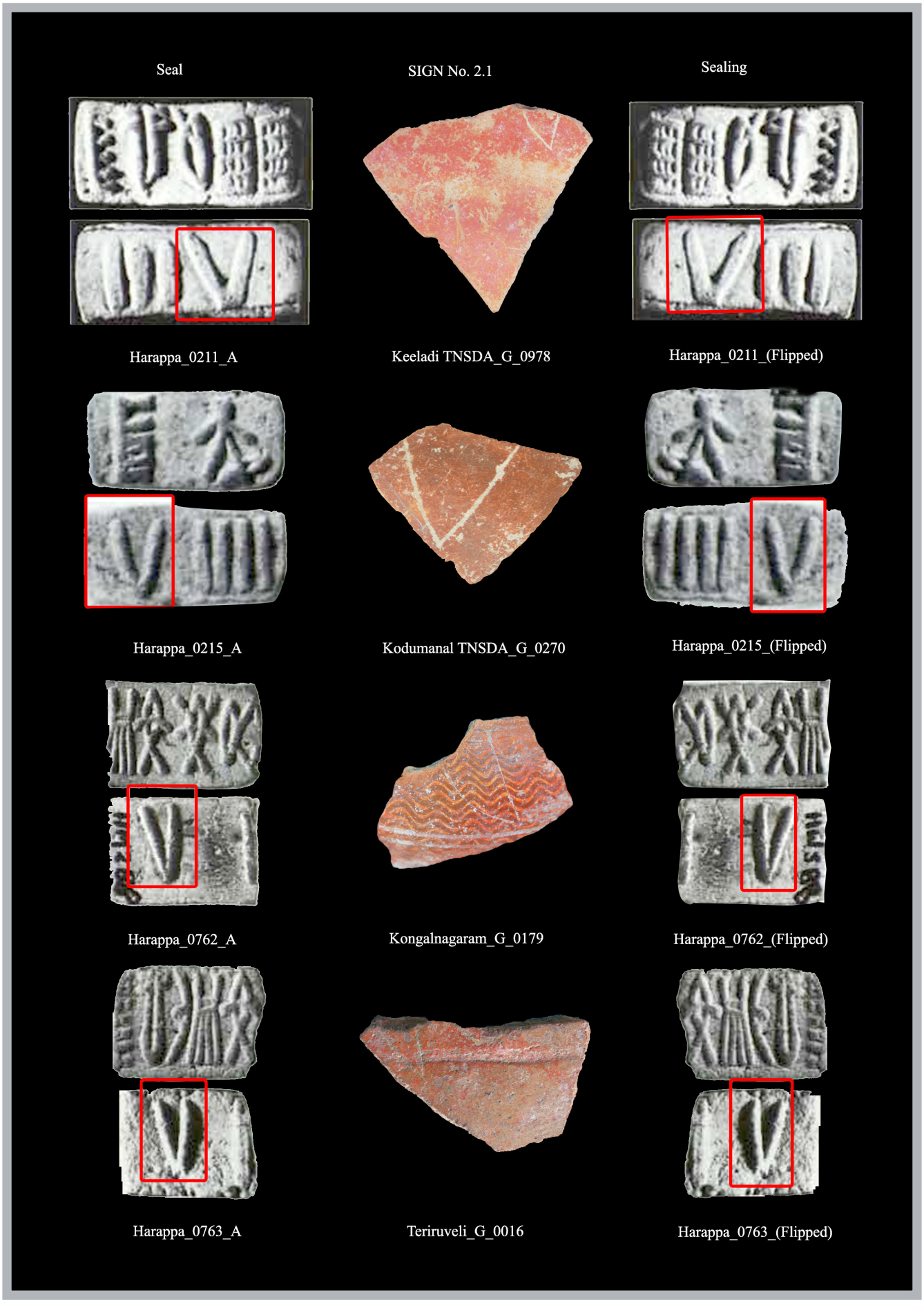


Plate-9_IVC_Sign_2.1

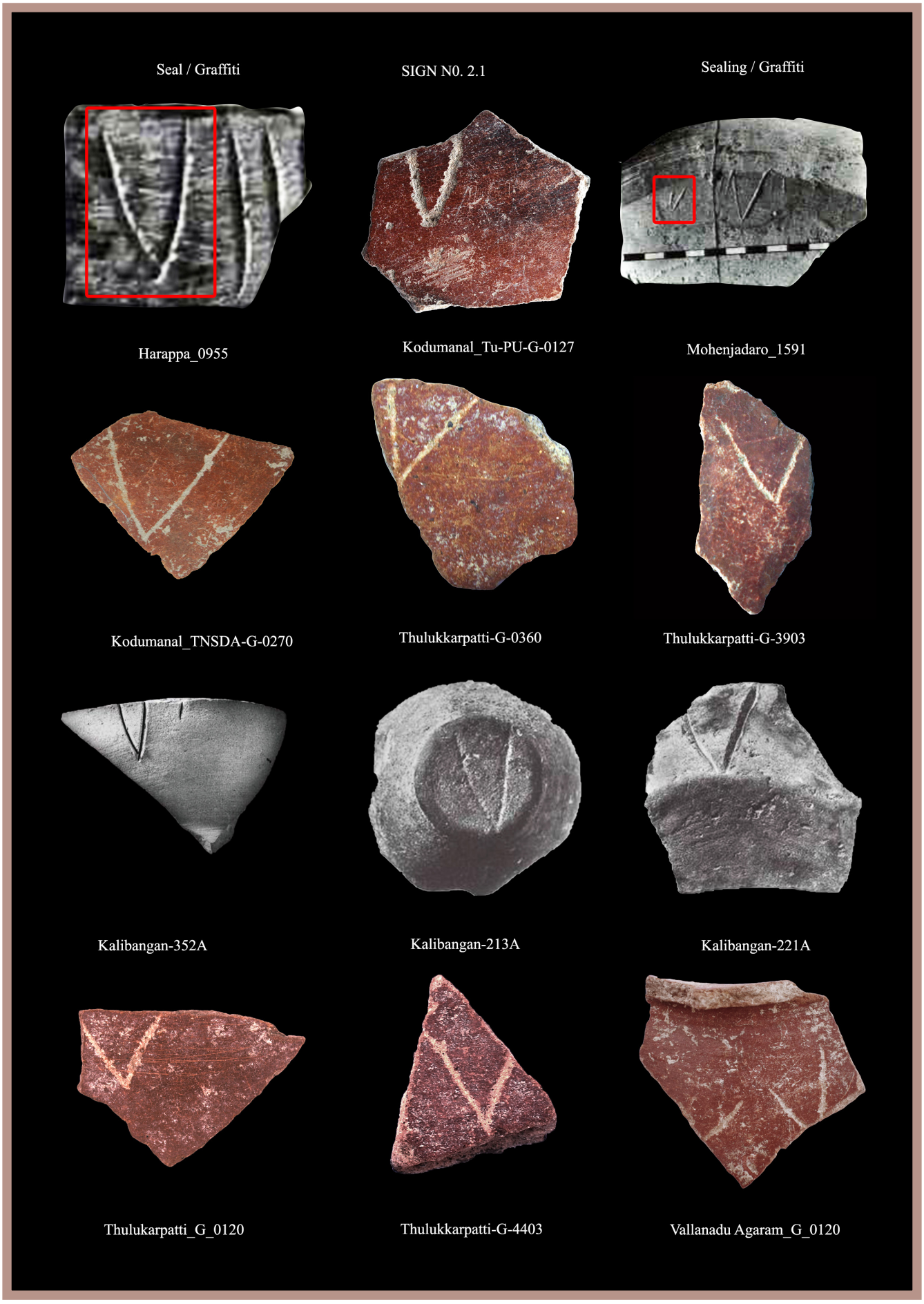


Plate-10_IVC_Sign_2.1

Plate-11_IVC_Sign_2.6

Plate-12_IVC_Sign_2.52

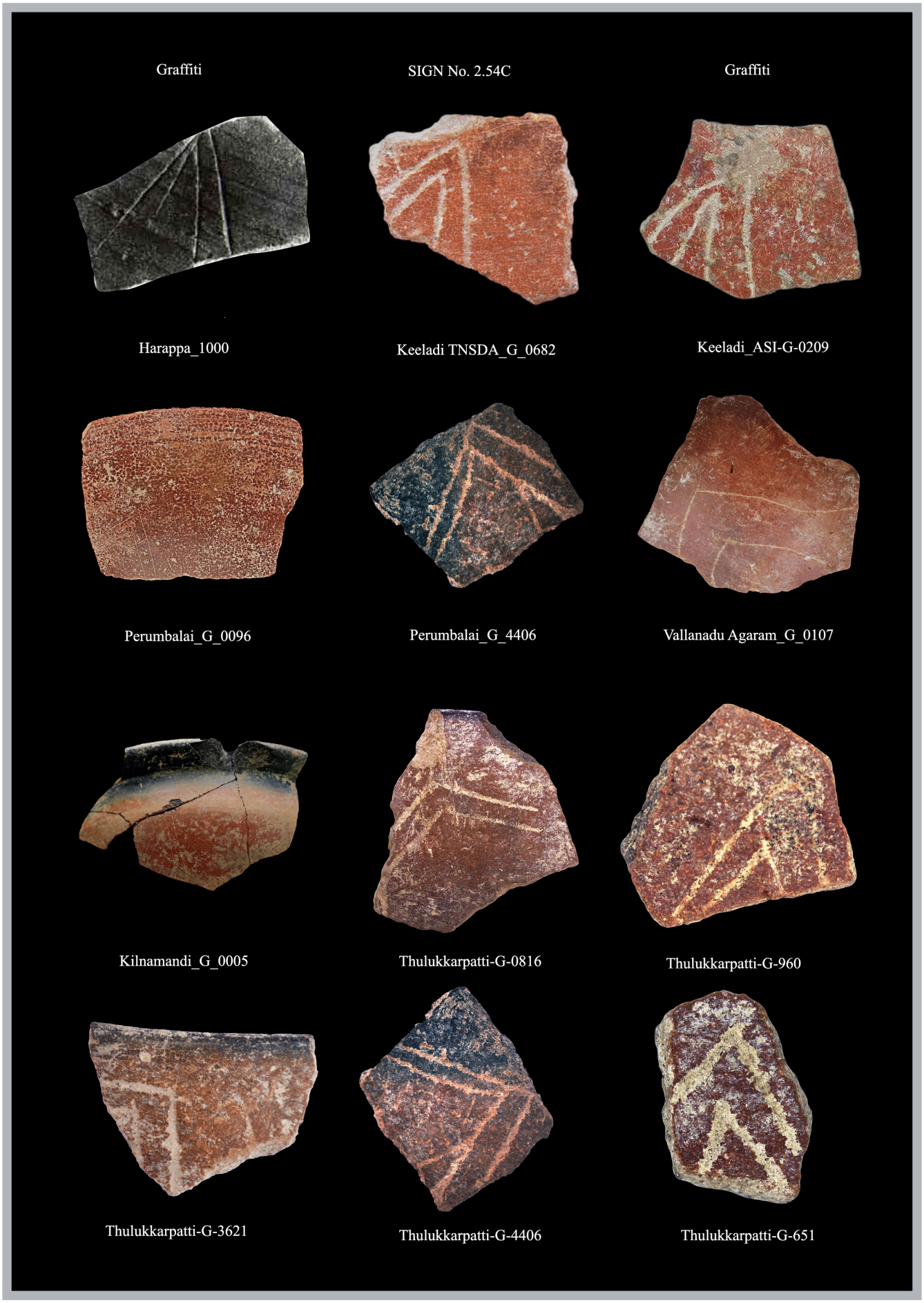


Plate-13_IVC_Sign_2.54

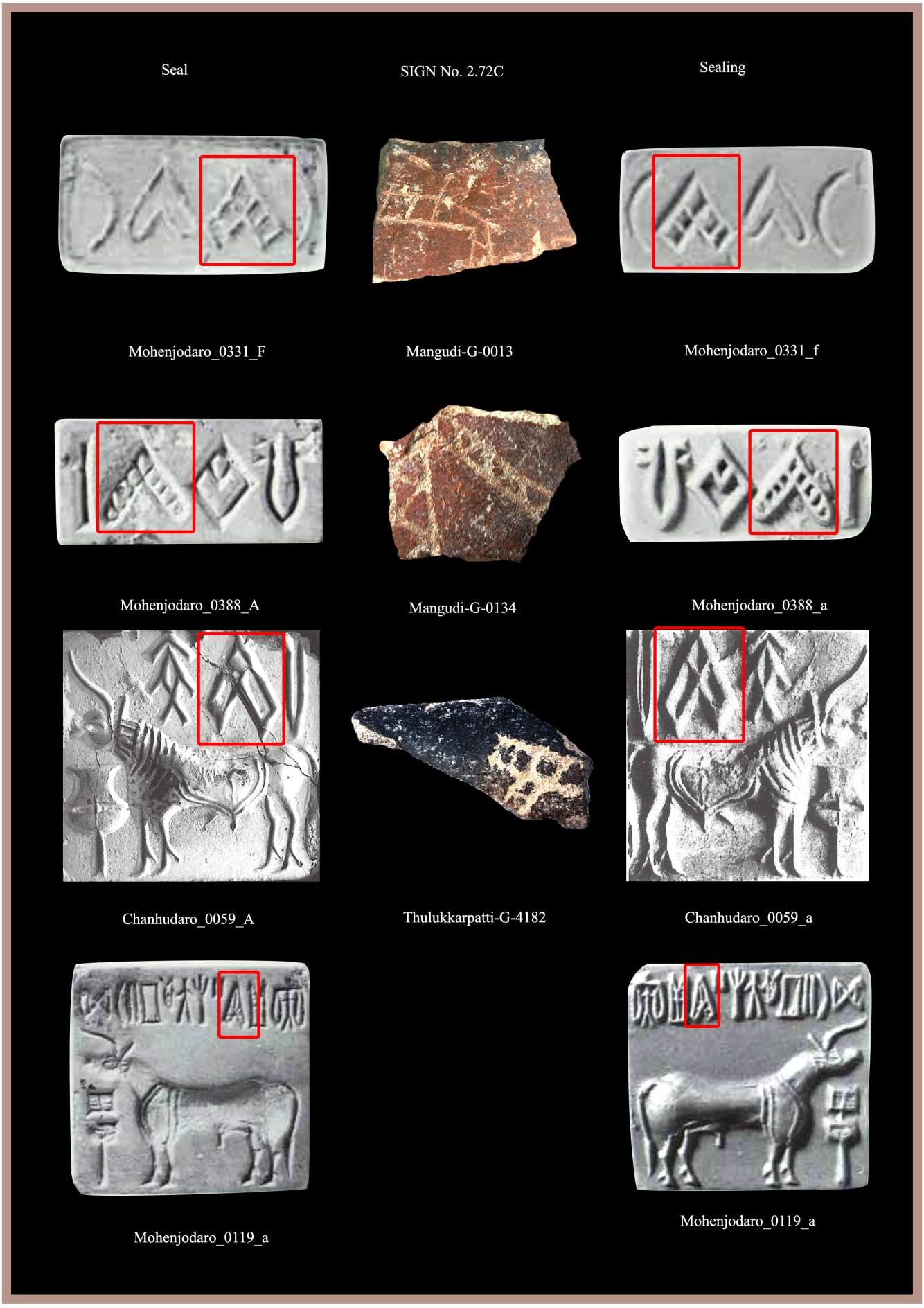


Plate-14_IVC_Sign_2.72

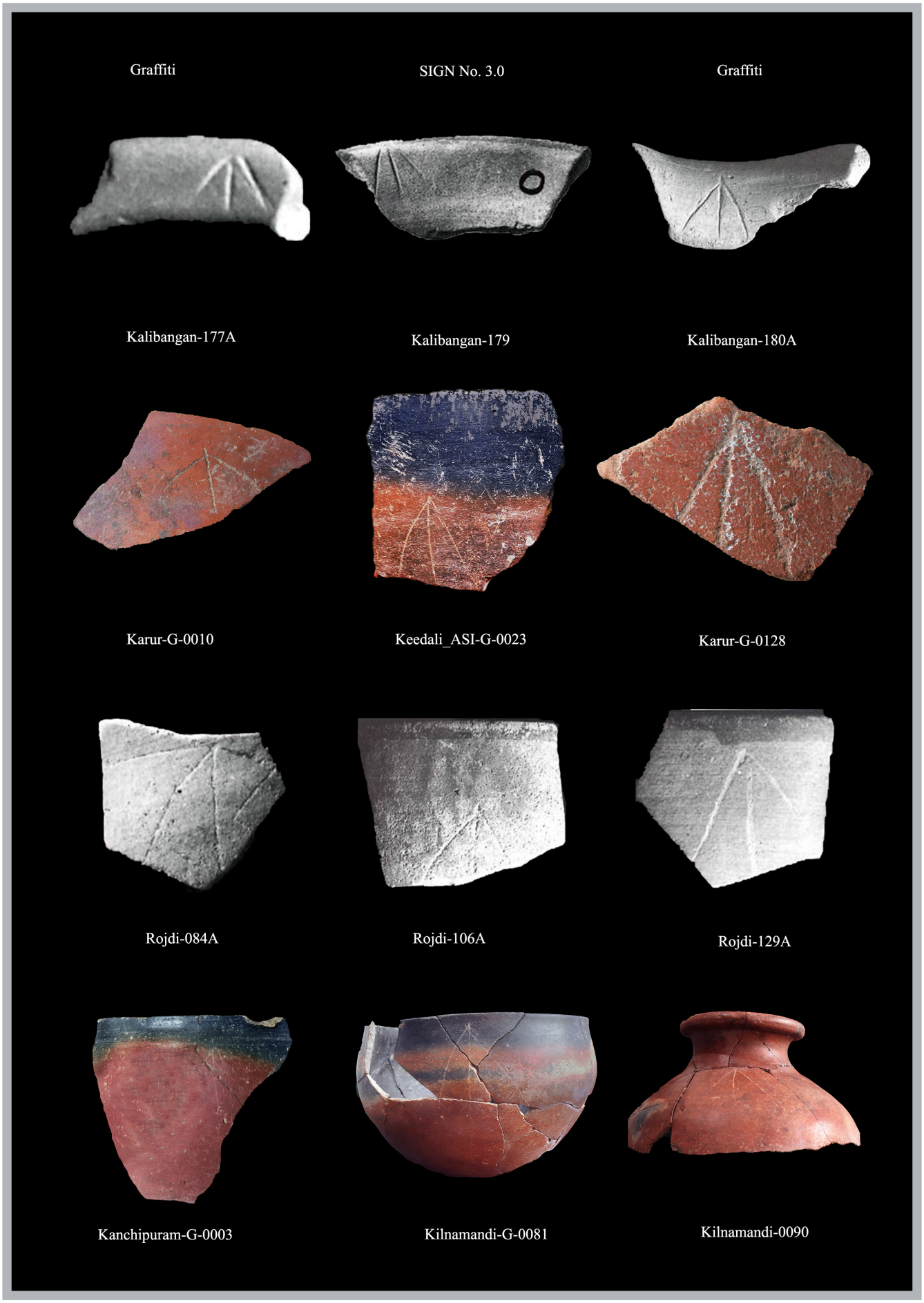


Plate-15_IVC_Sign_3.0

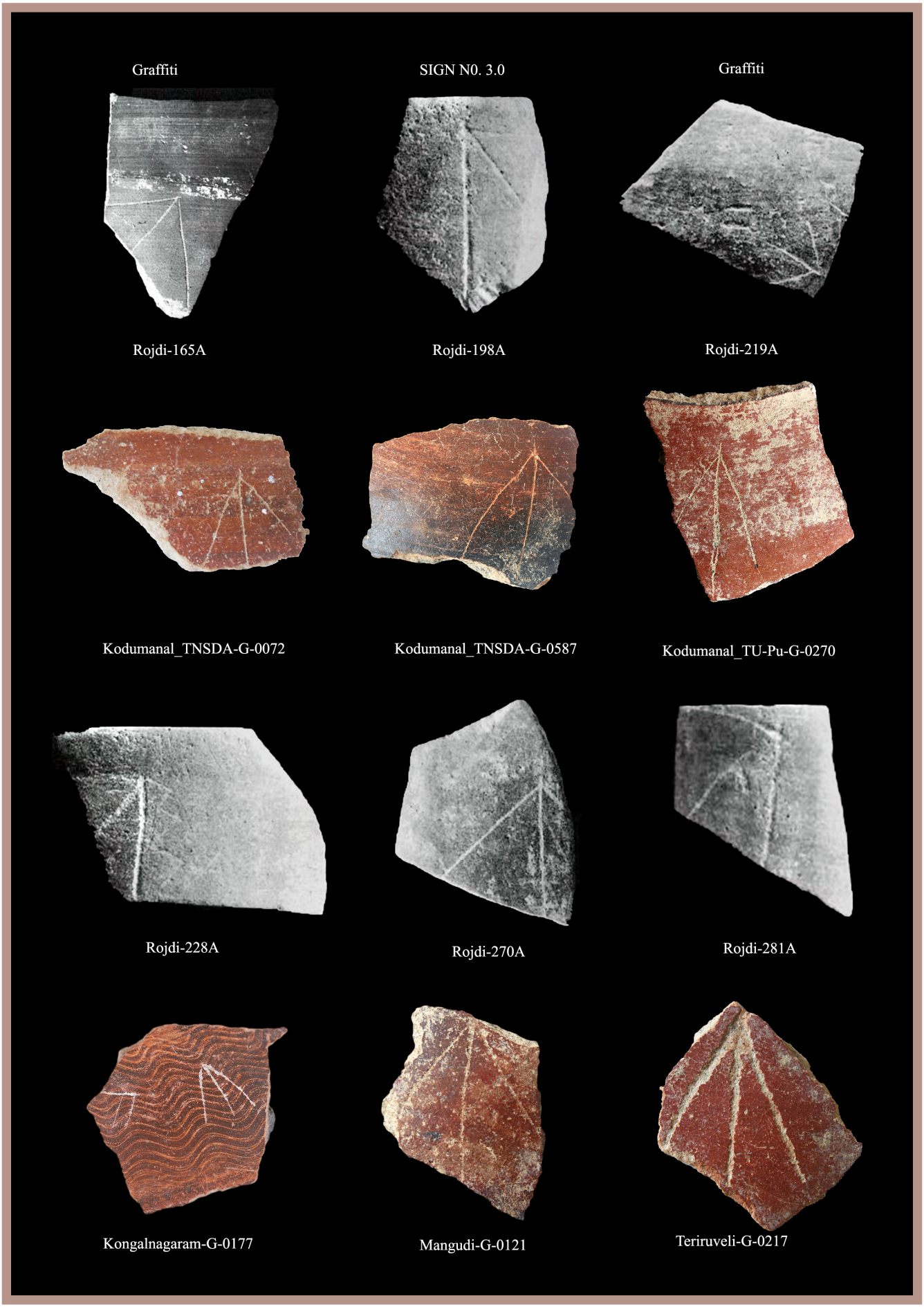


Plate-16_IVC_Sign_3.0

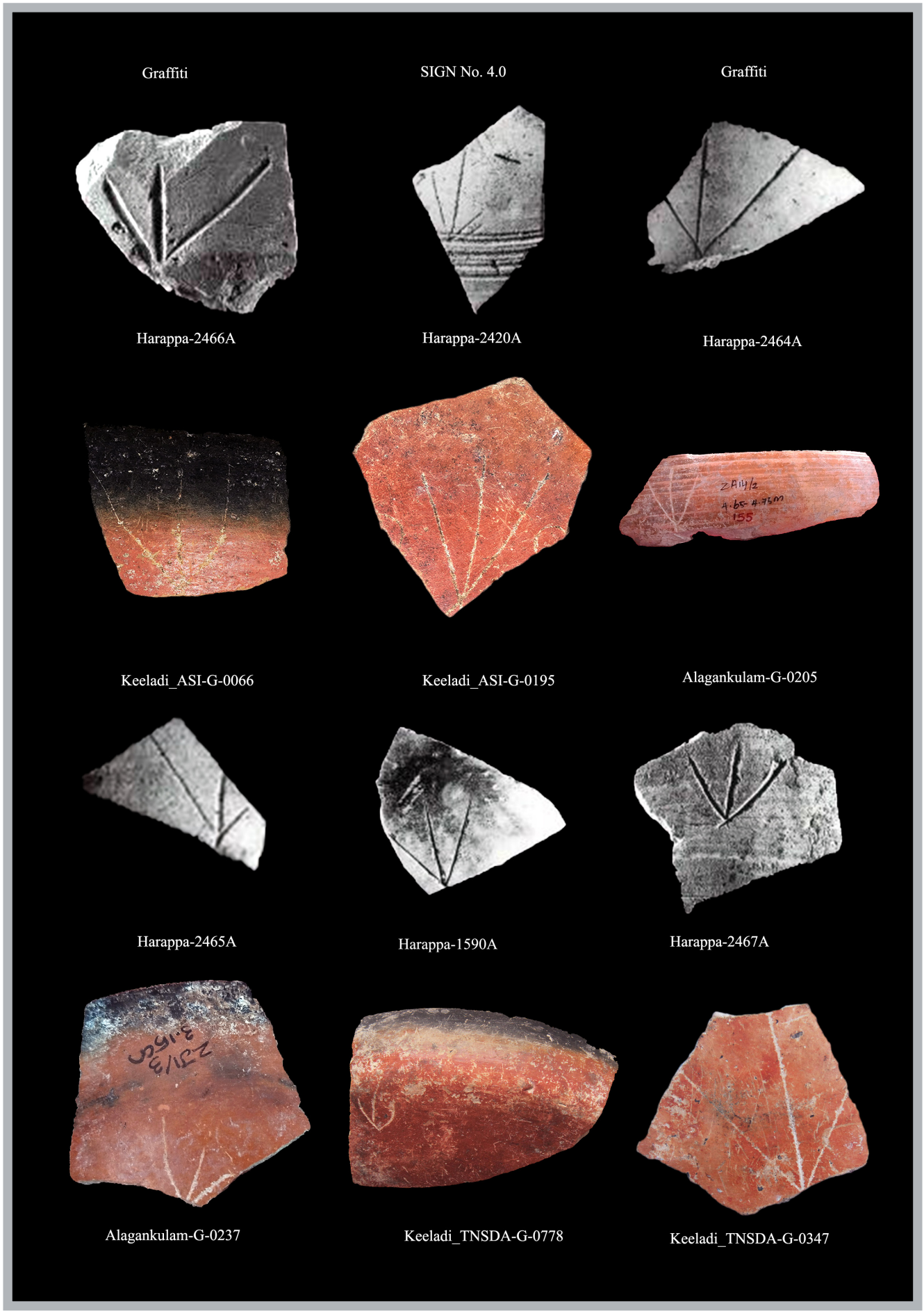


Plate-17_IVC_Sign_4.0

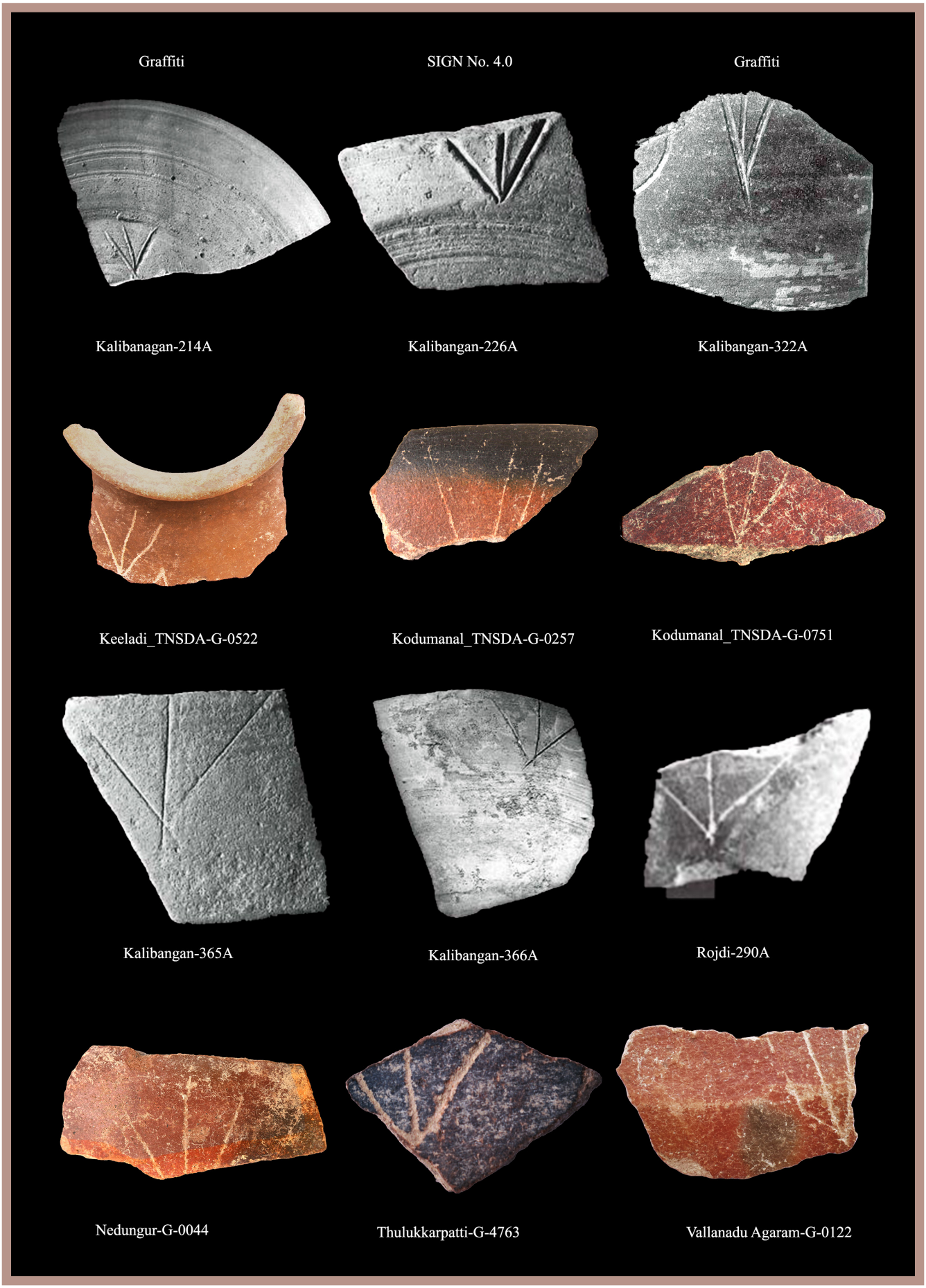


Plate-18_IVC_Sign_4.0

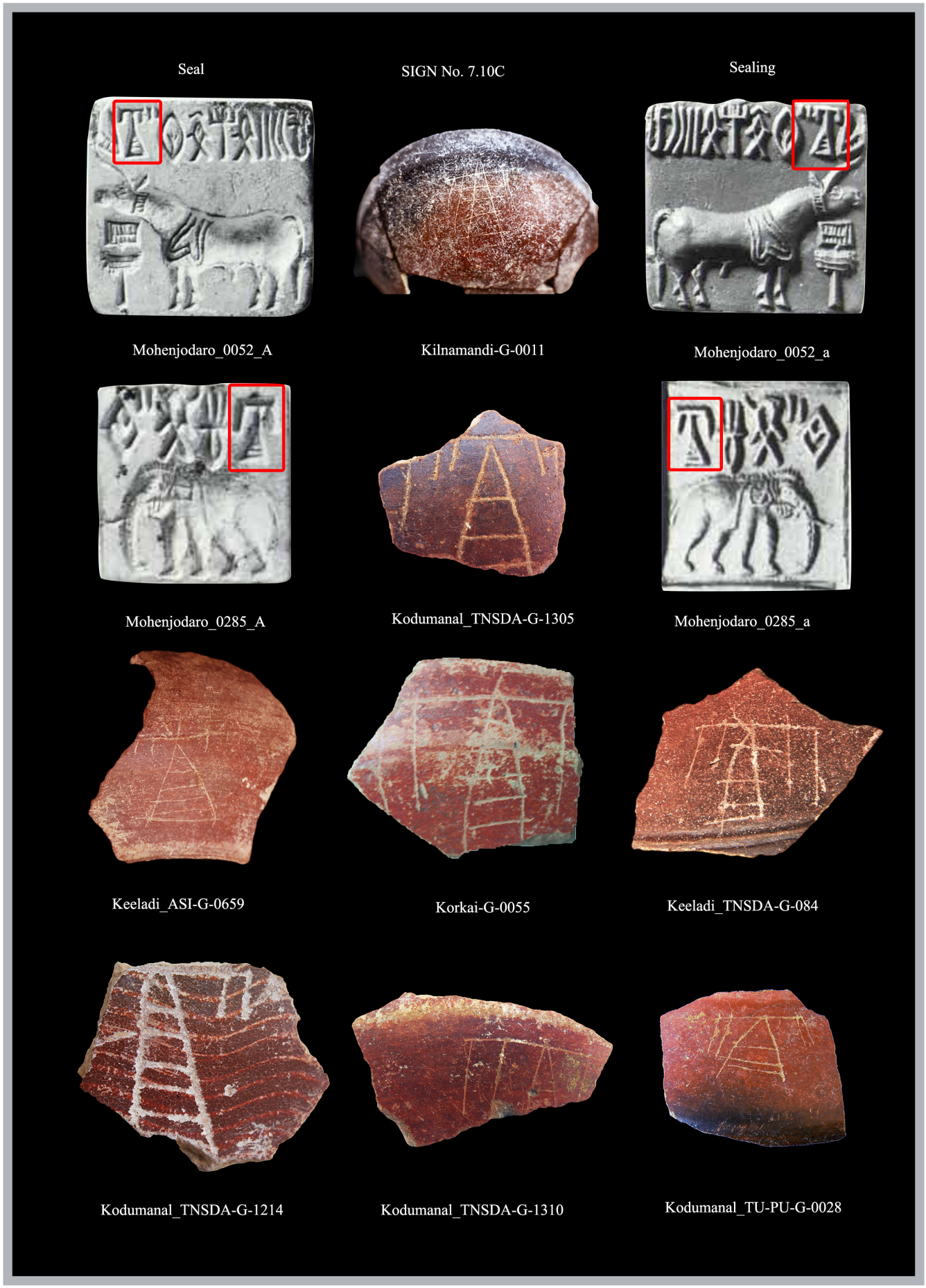


Plate-19_IVC_Sign_7.10C

Plate-20_IVC_Sign_9.0

Plate-21_IVC_Sign_9.0

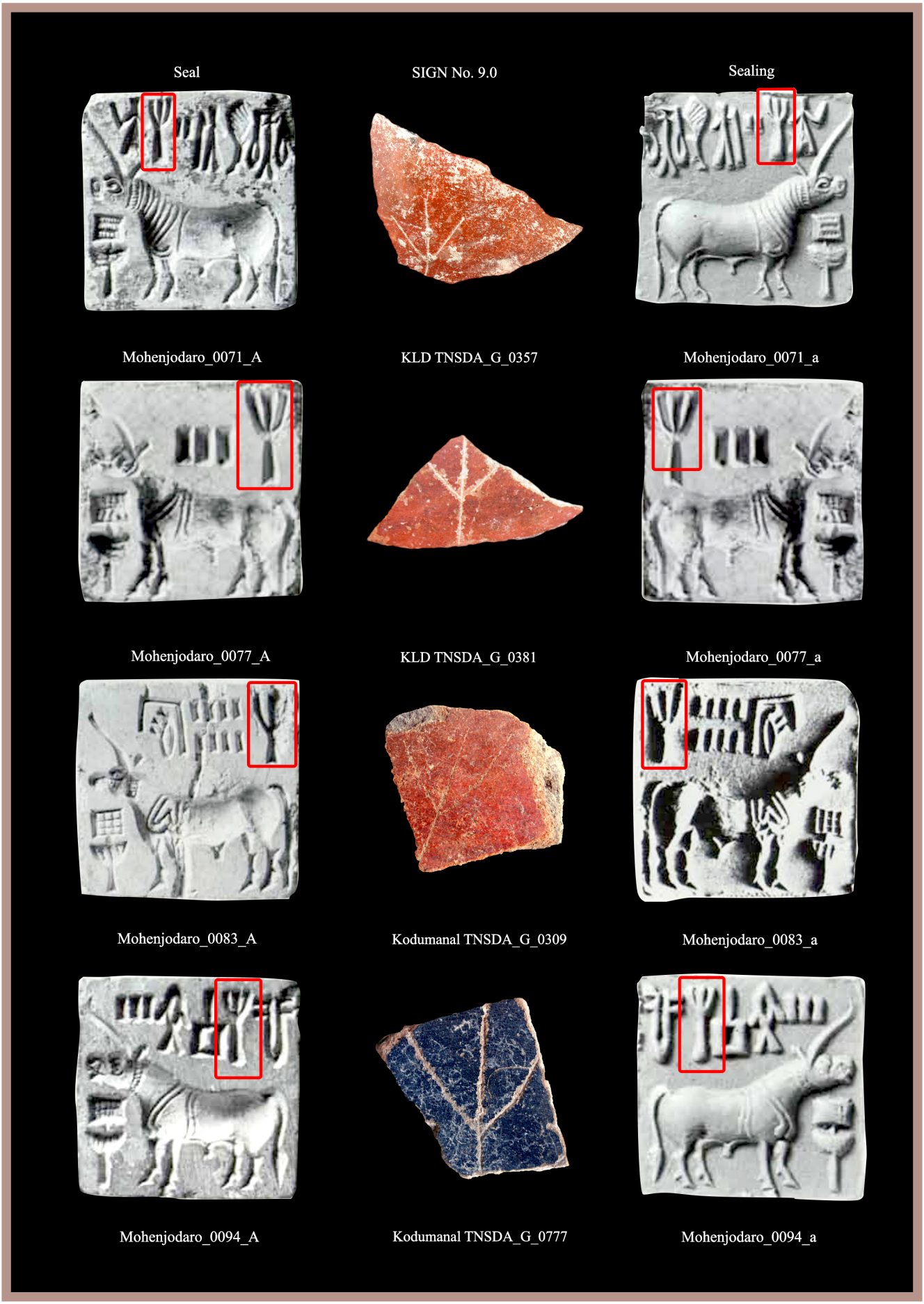


Plate-22_IVC_Sign_9.0

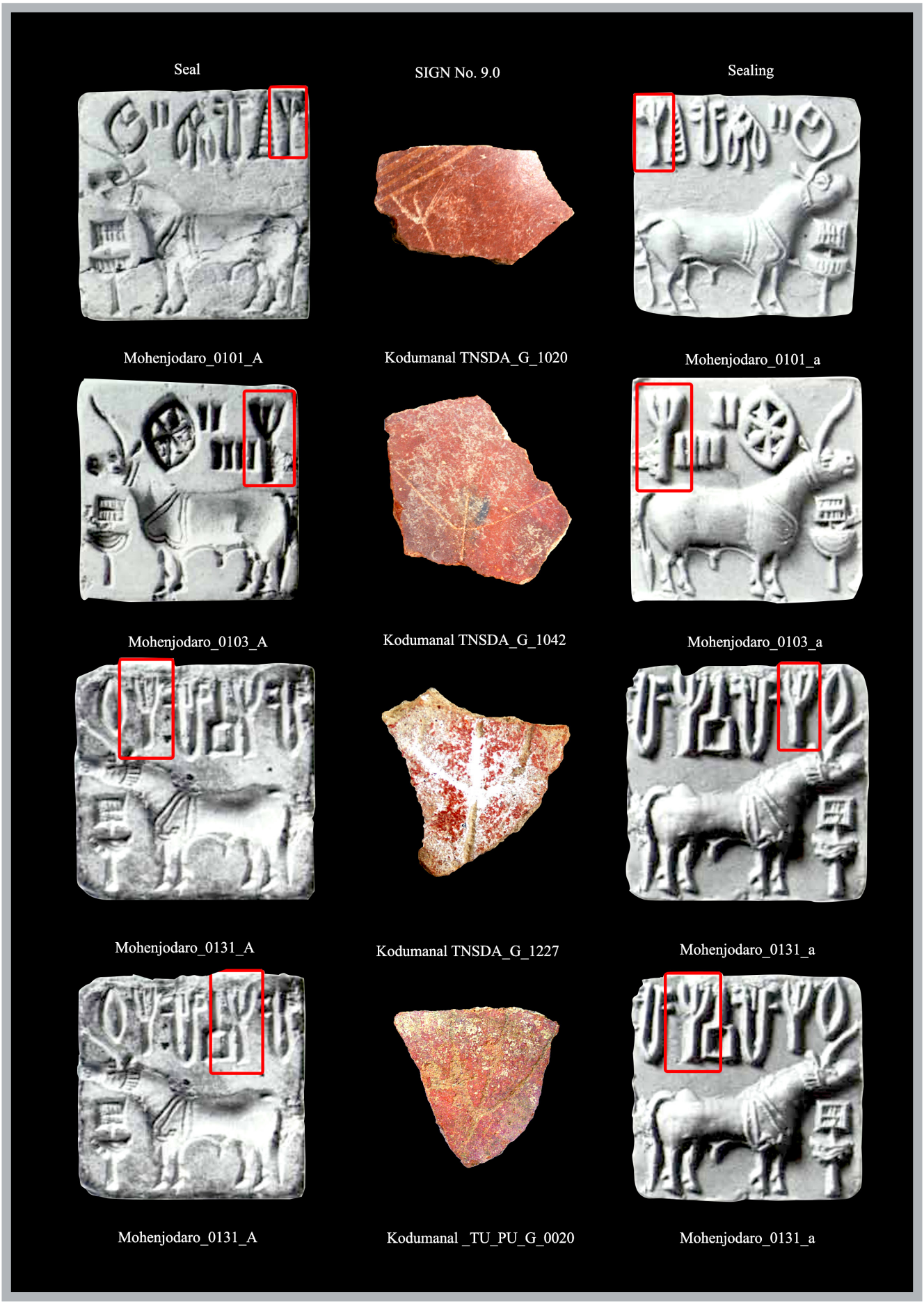


Plate-23_IVC_Sign_9.0

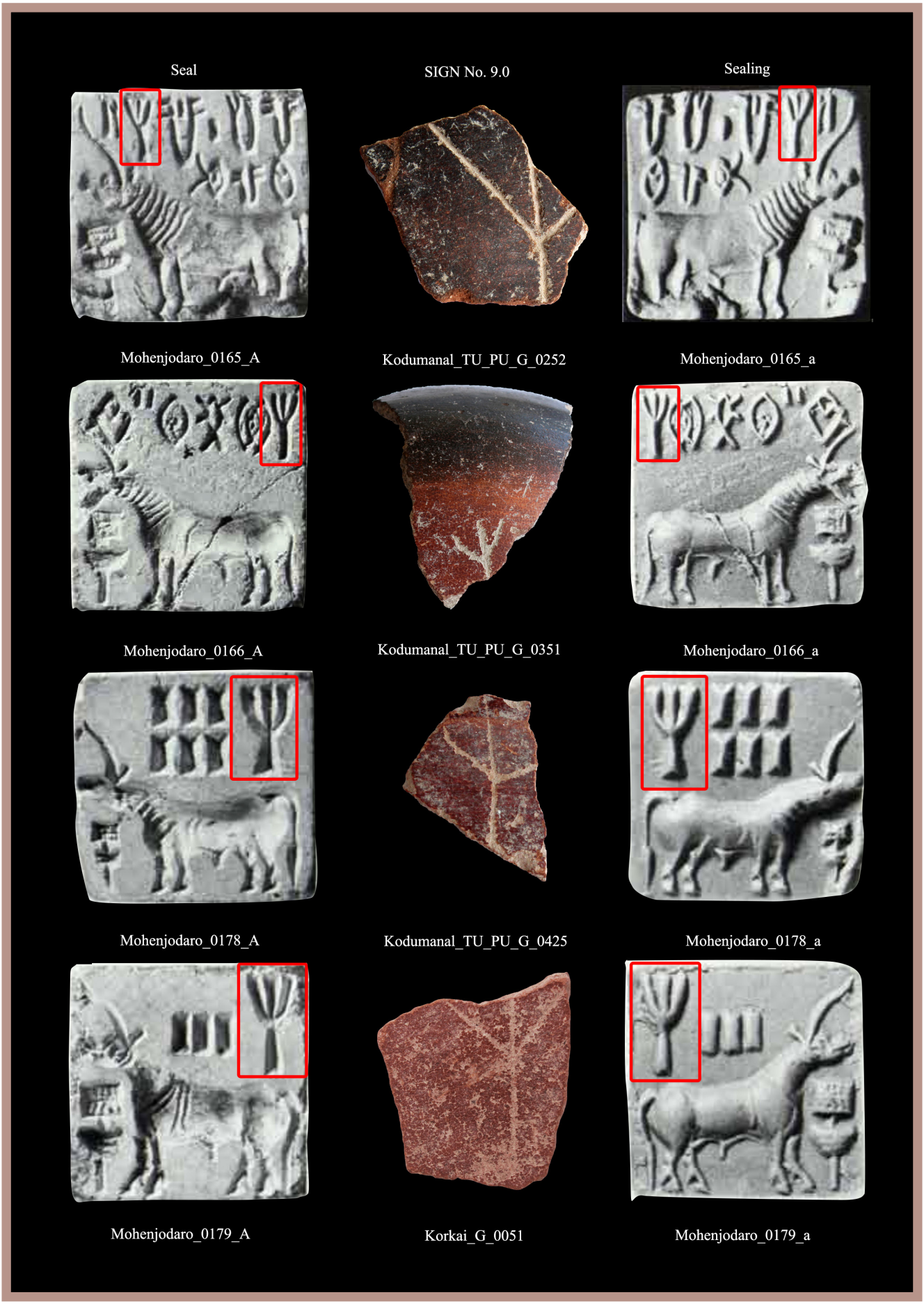


Plate-24_IVC_Sign_9.0

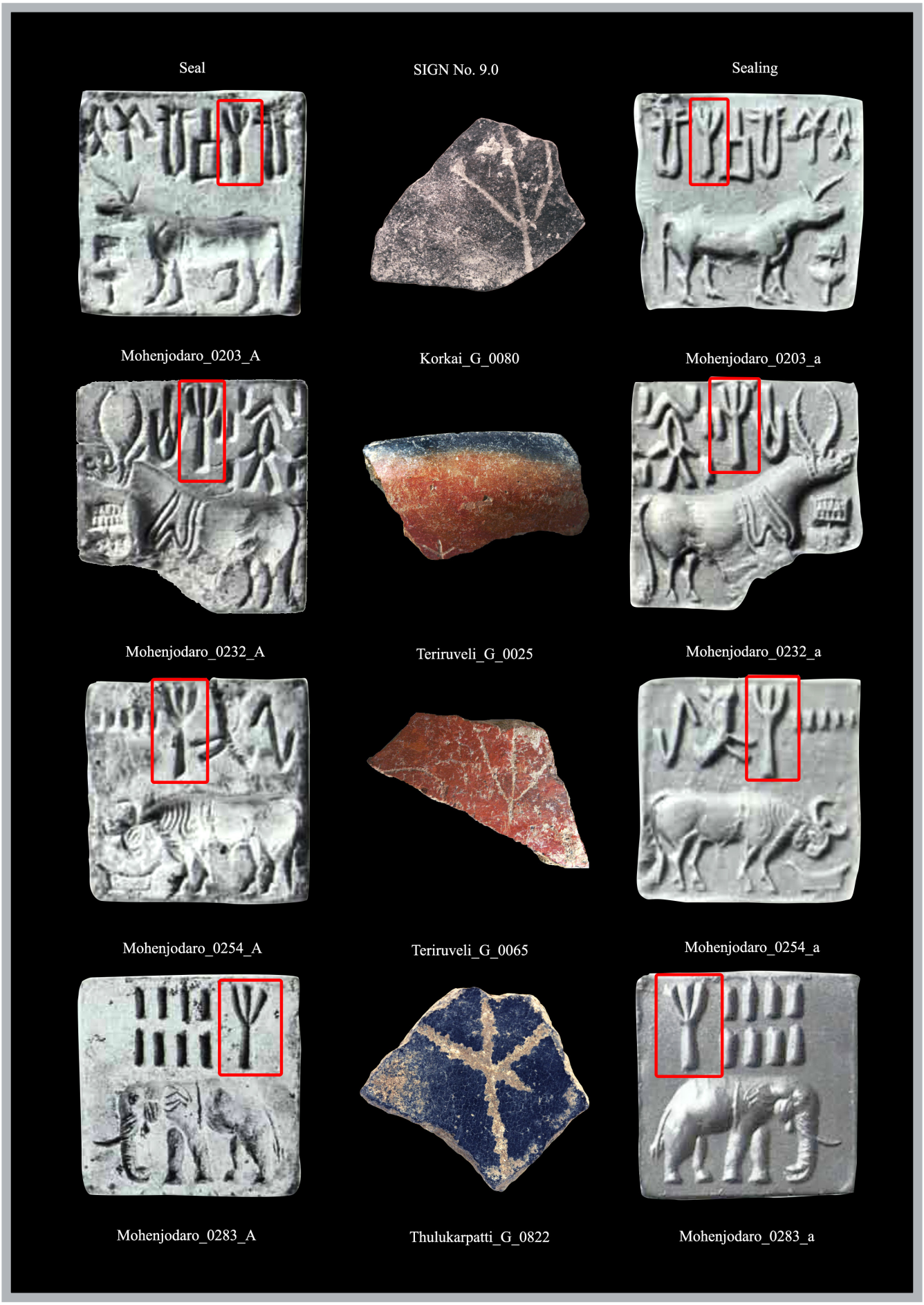


Plate-25_IVC_Sign_9.0

Plate-26_IVC_Sign_9.0

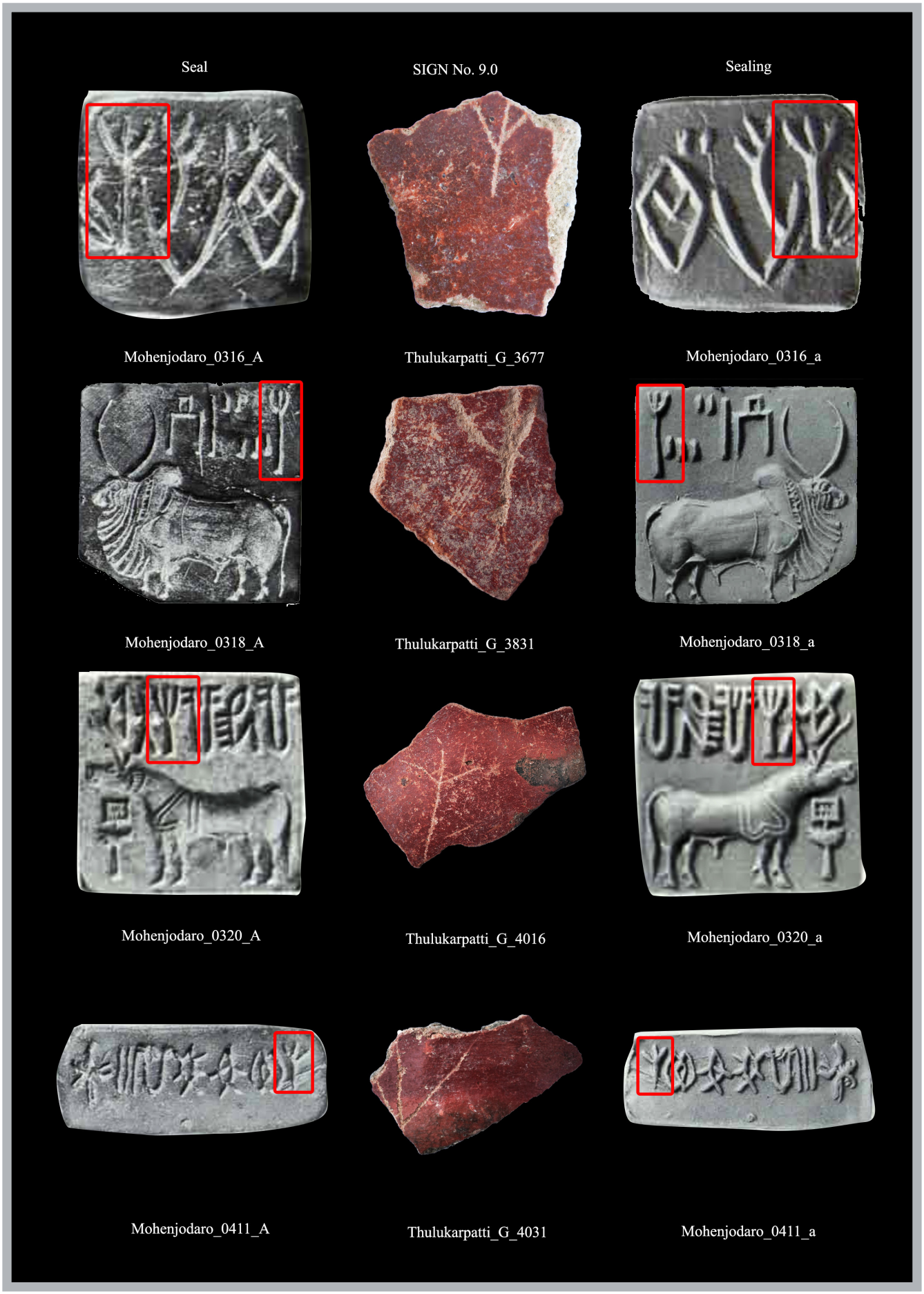


Plate-27_IVC_Sign_9.0

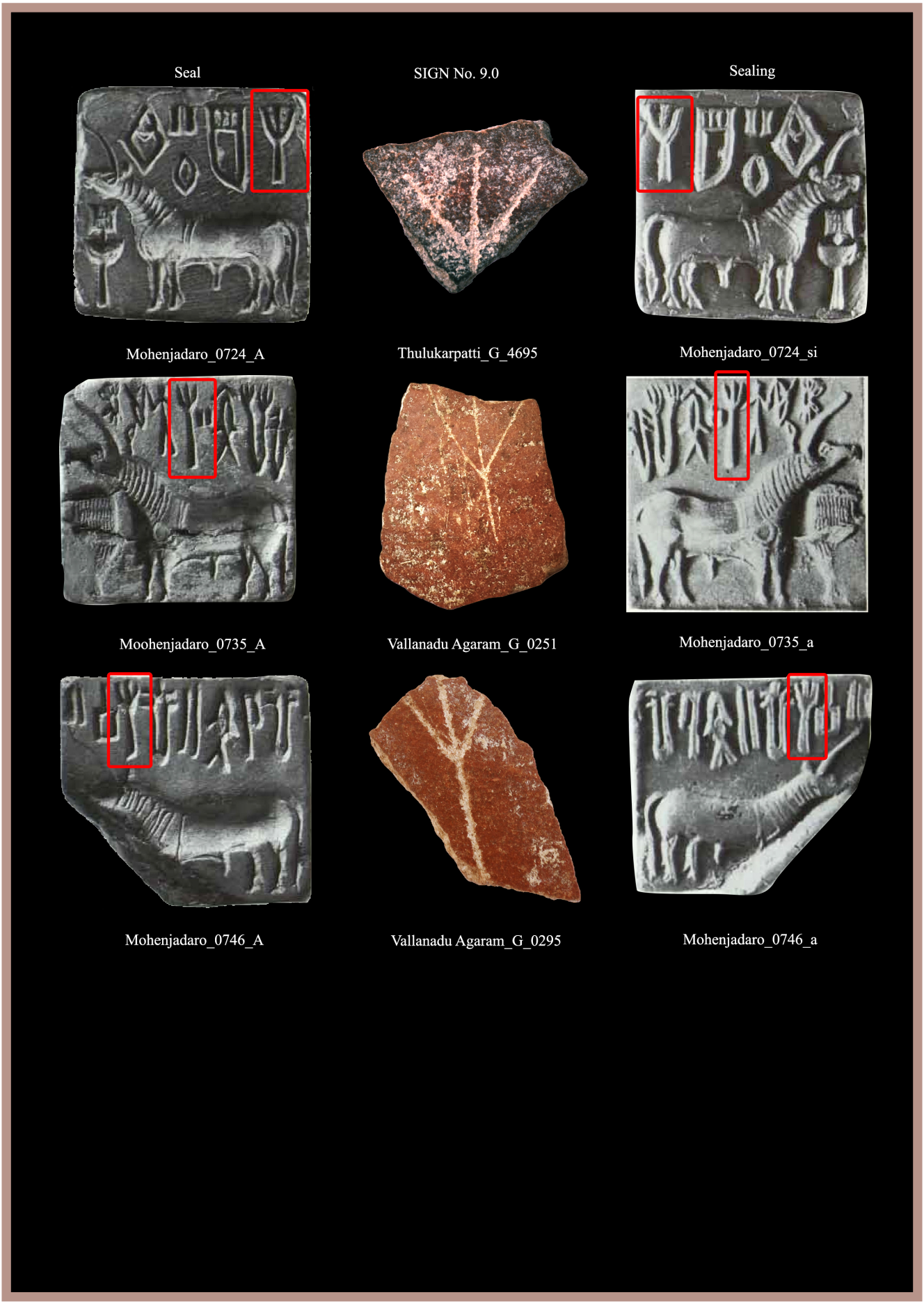


Plate-28_IVC_Sign_9.0

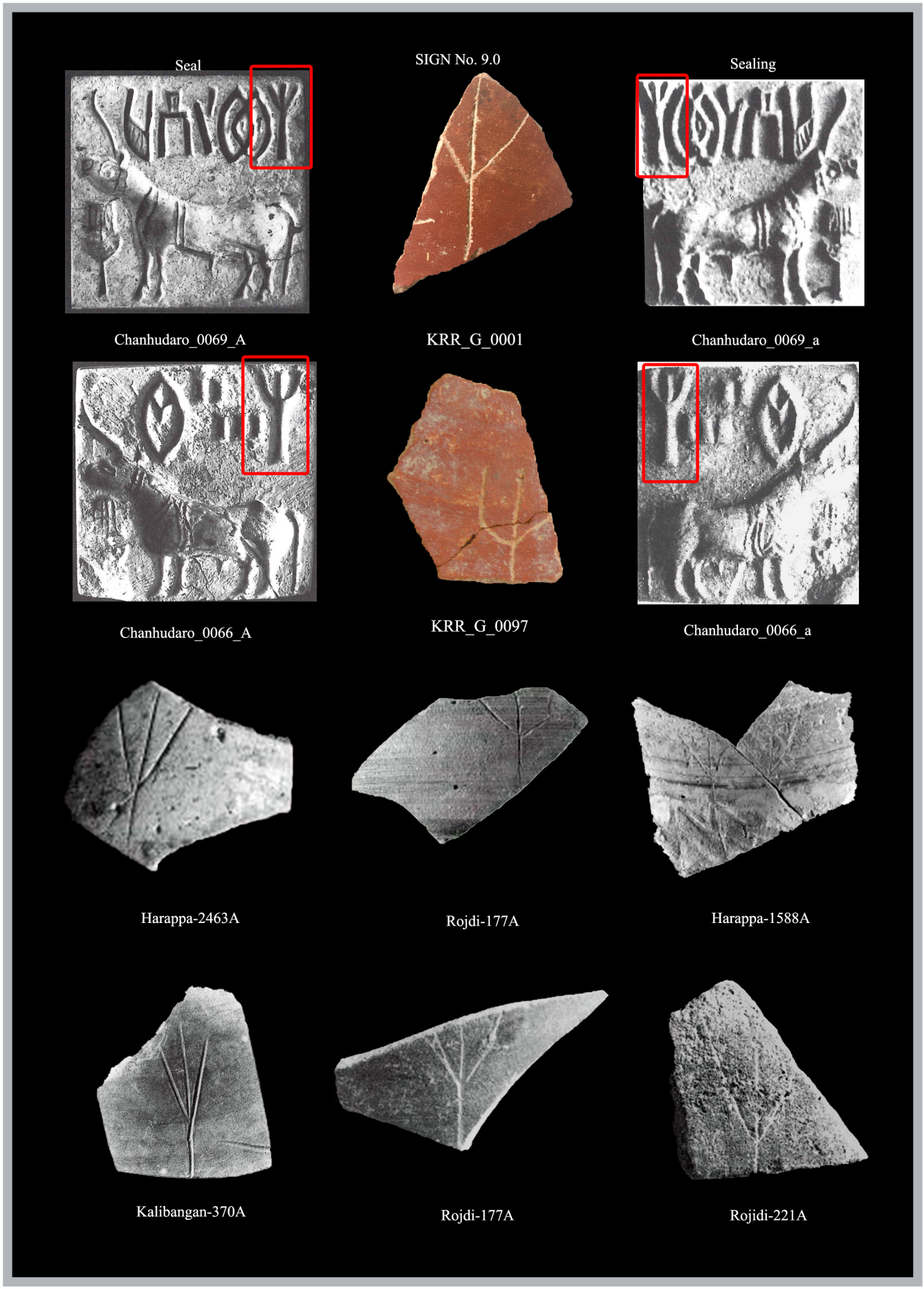


Plate-29_IVC_Sign_9.0

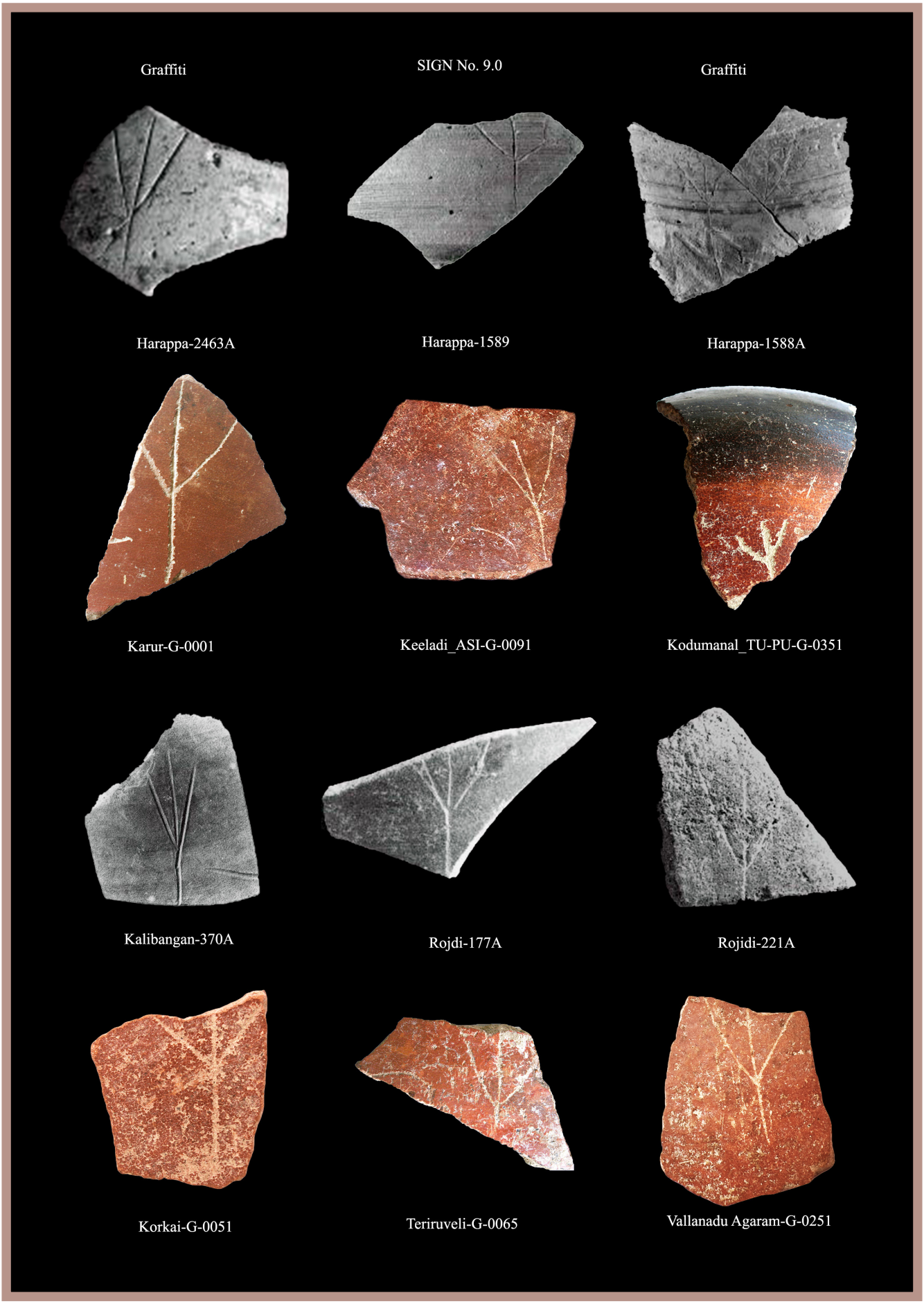


Plate-30_IVC_Sign_9.0C

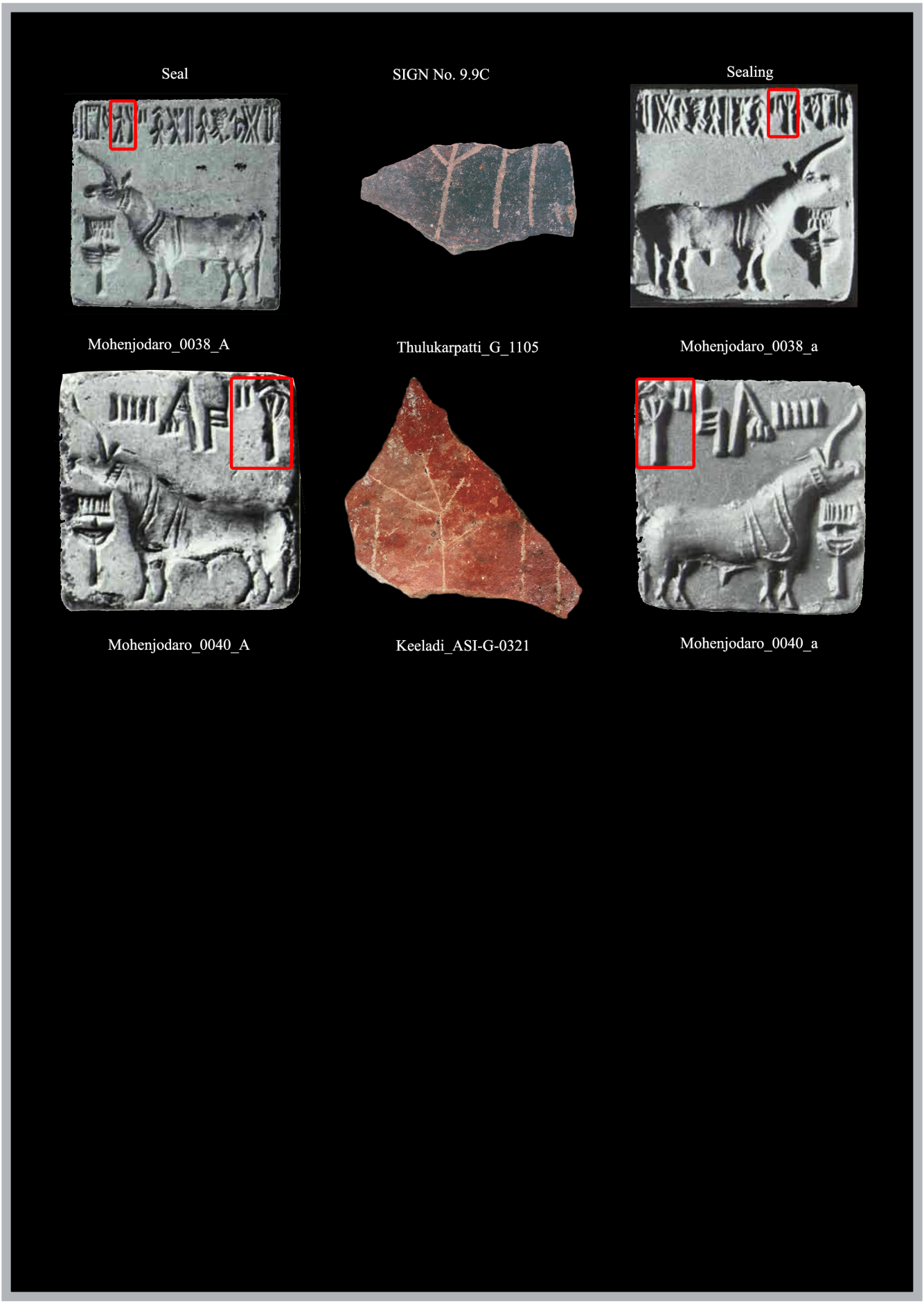


Plate-31_IVC_Sign_9.9C

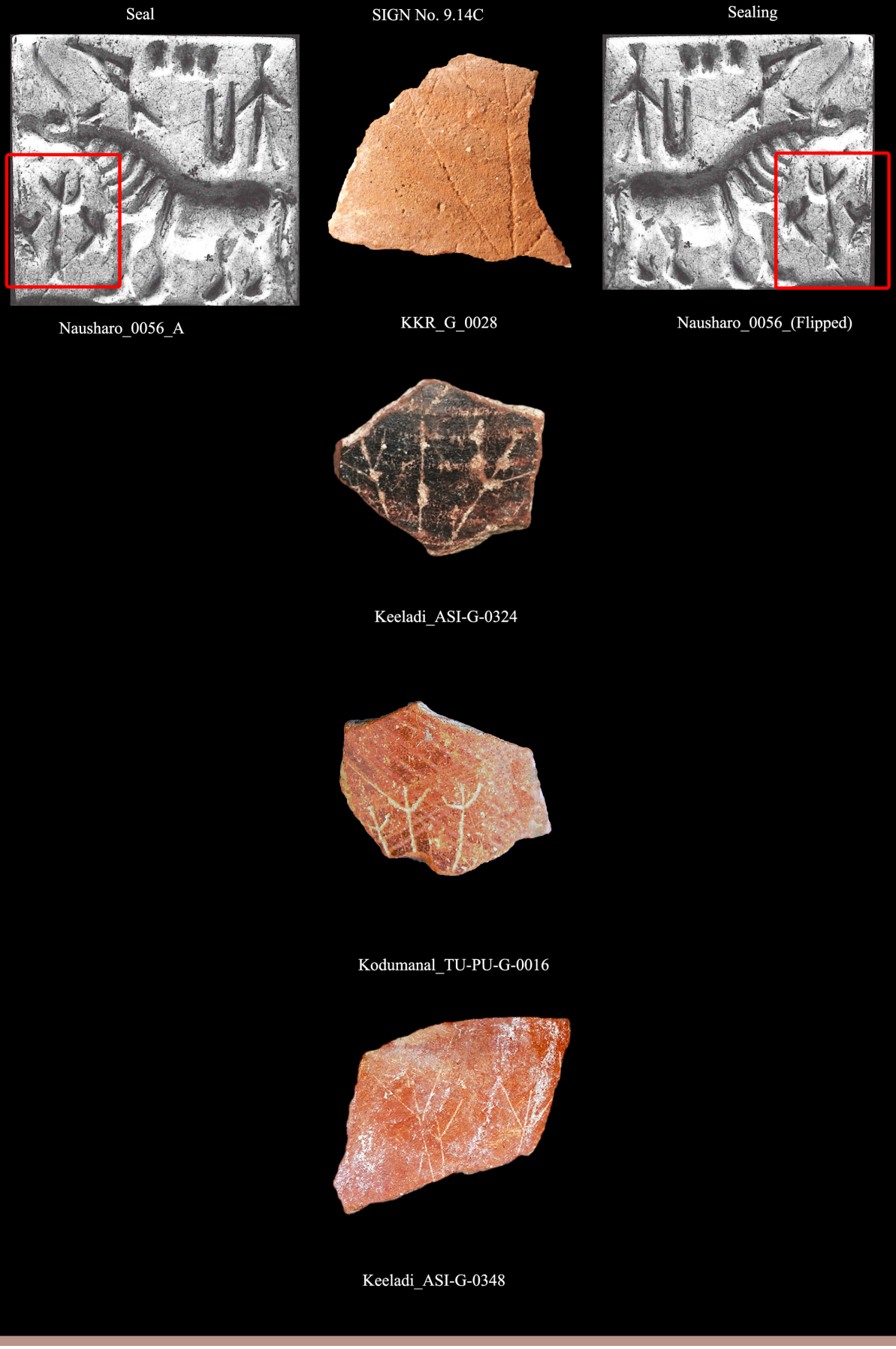


Plate-32_IVC_Sign_9.14C

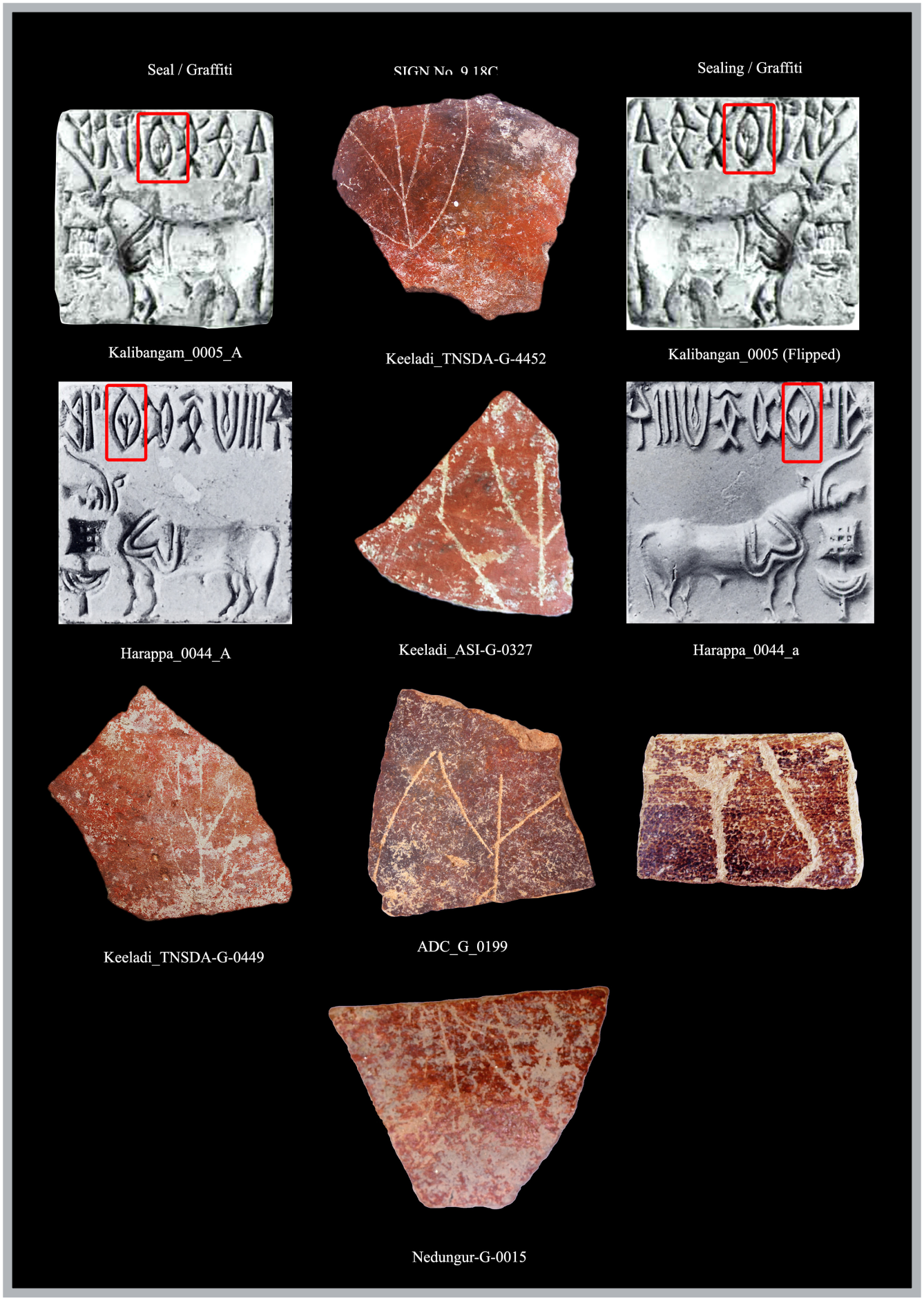


Plate-33_IVC_Sign_9.18 C

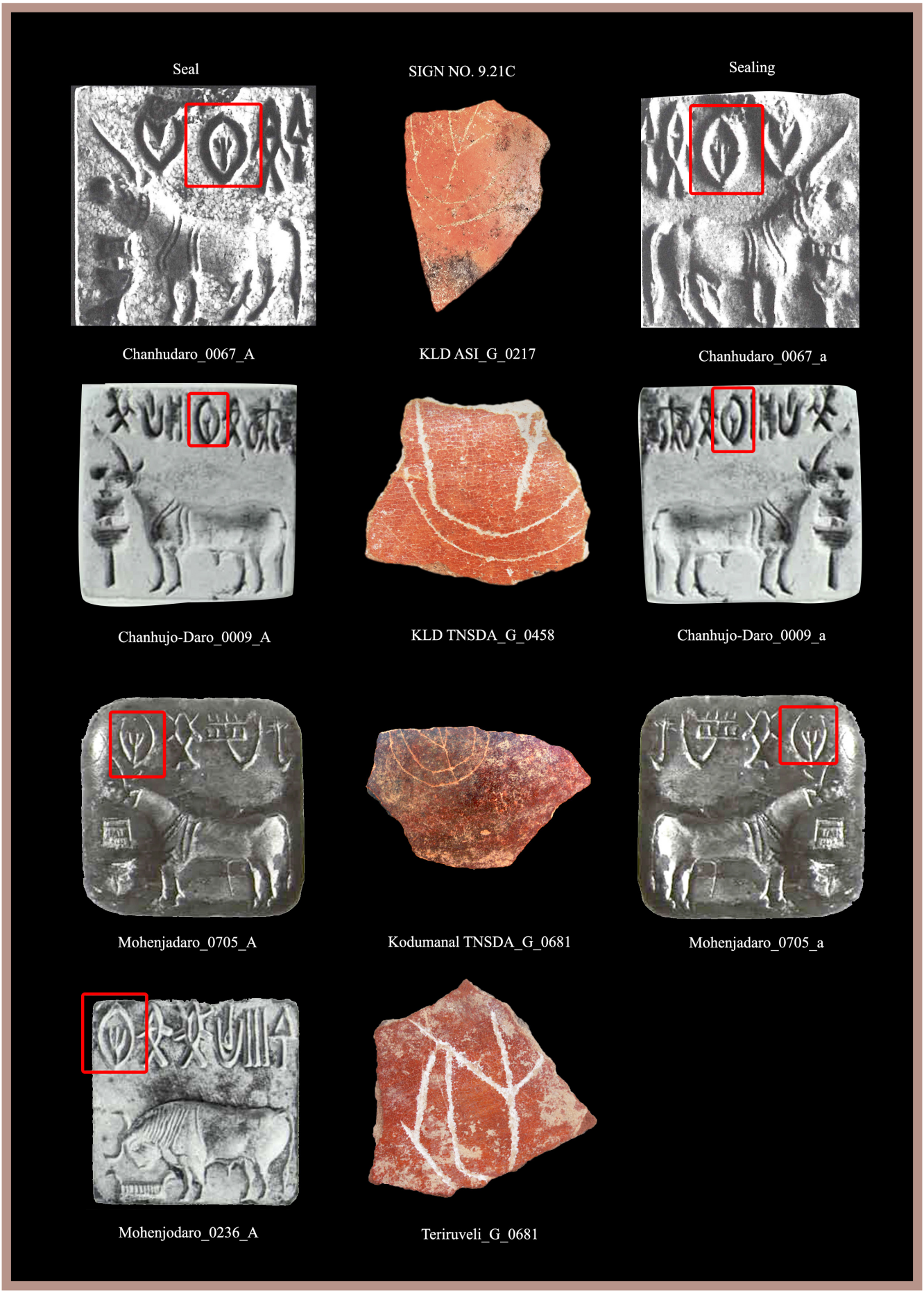


Plate-34_IVC_Sign_9.21C

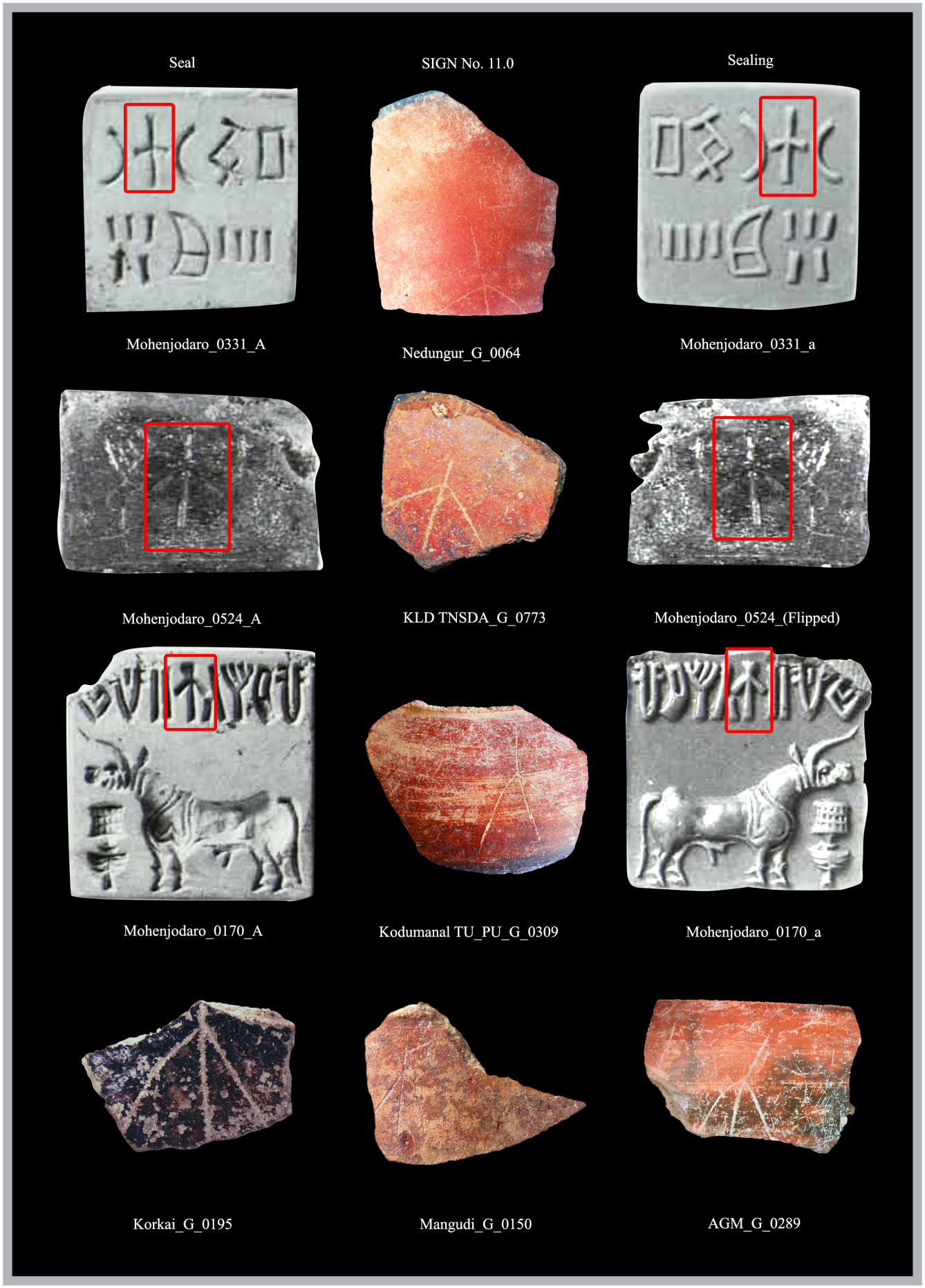


Plate-35_IVC_Sign_11.0

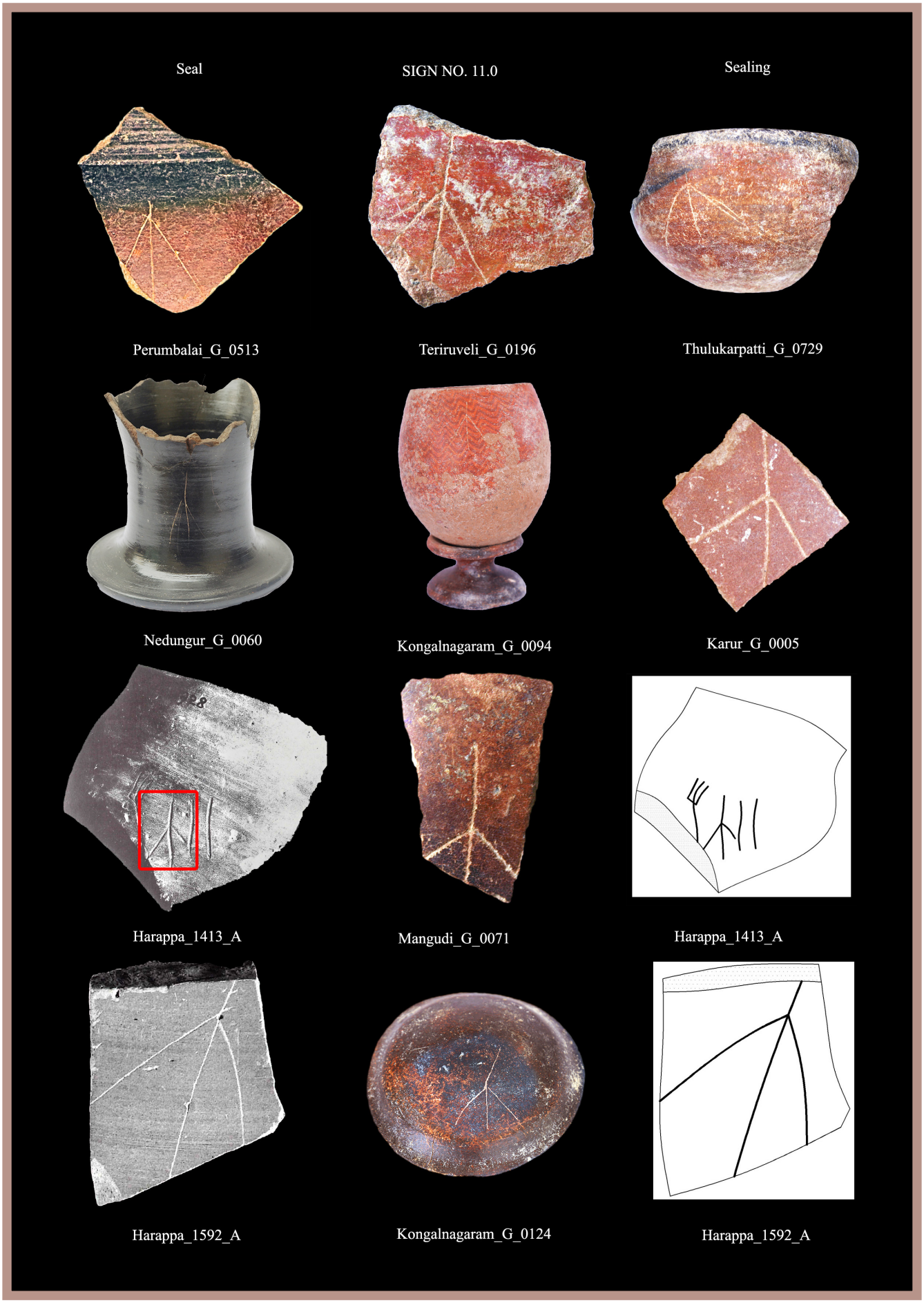


Plate-36_IVC_Sign_11.0

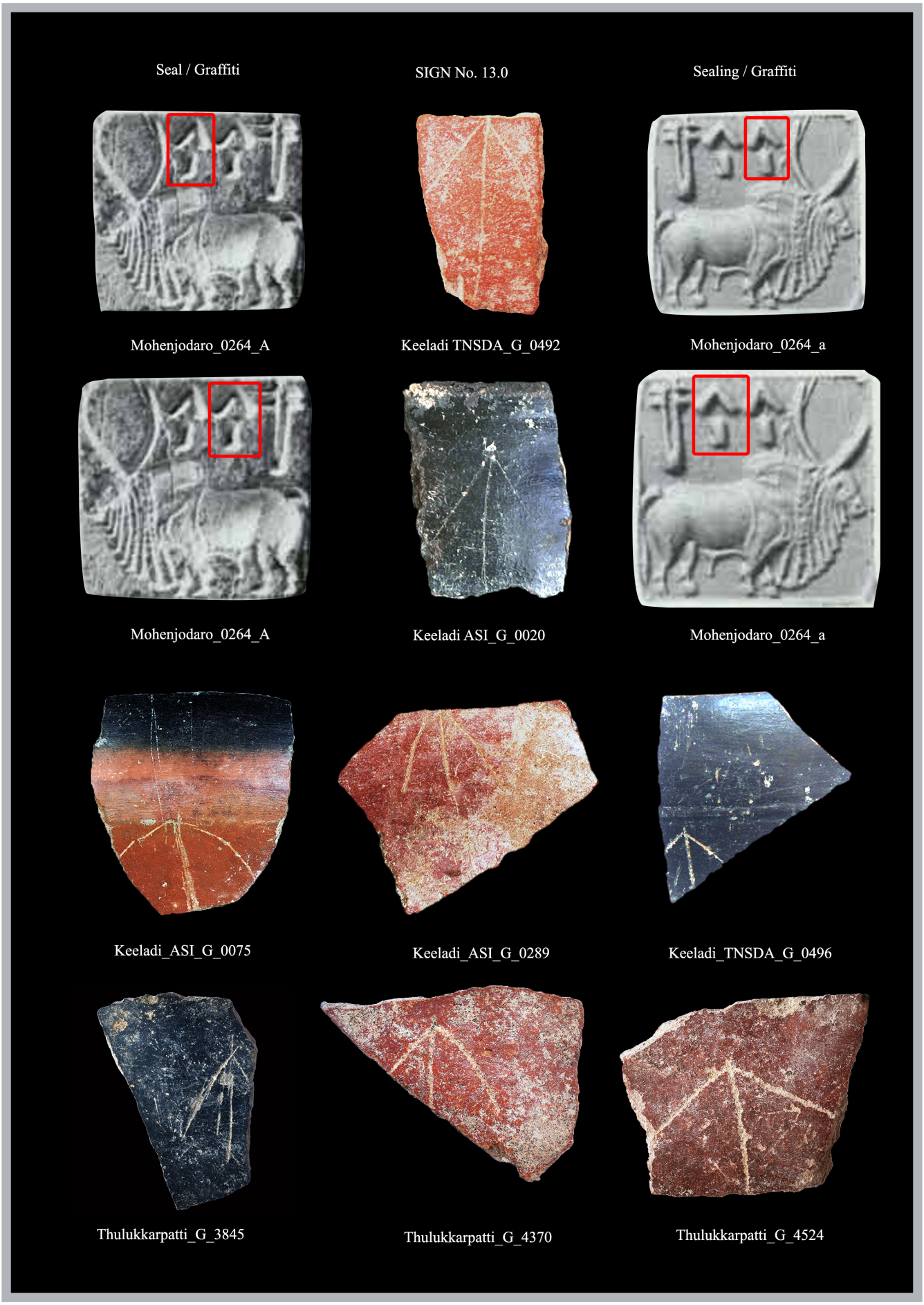


Plate-37_IVC_Sign_13.0

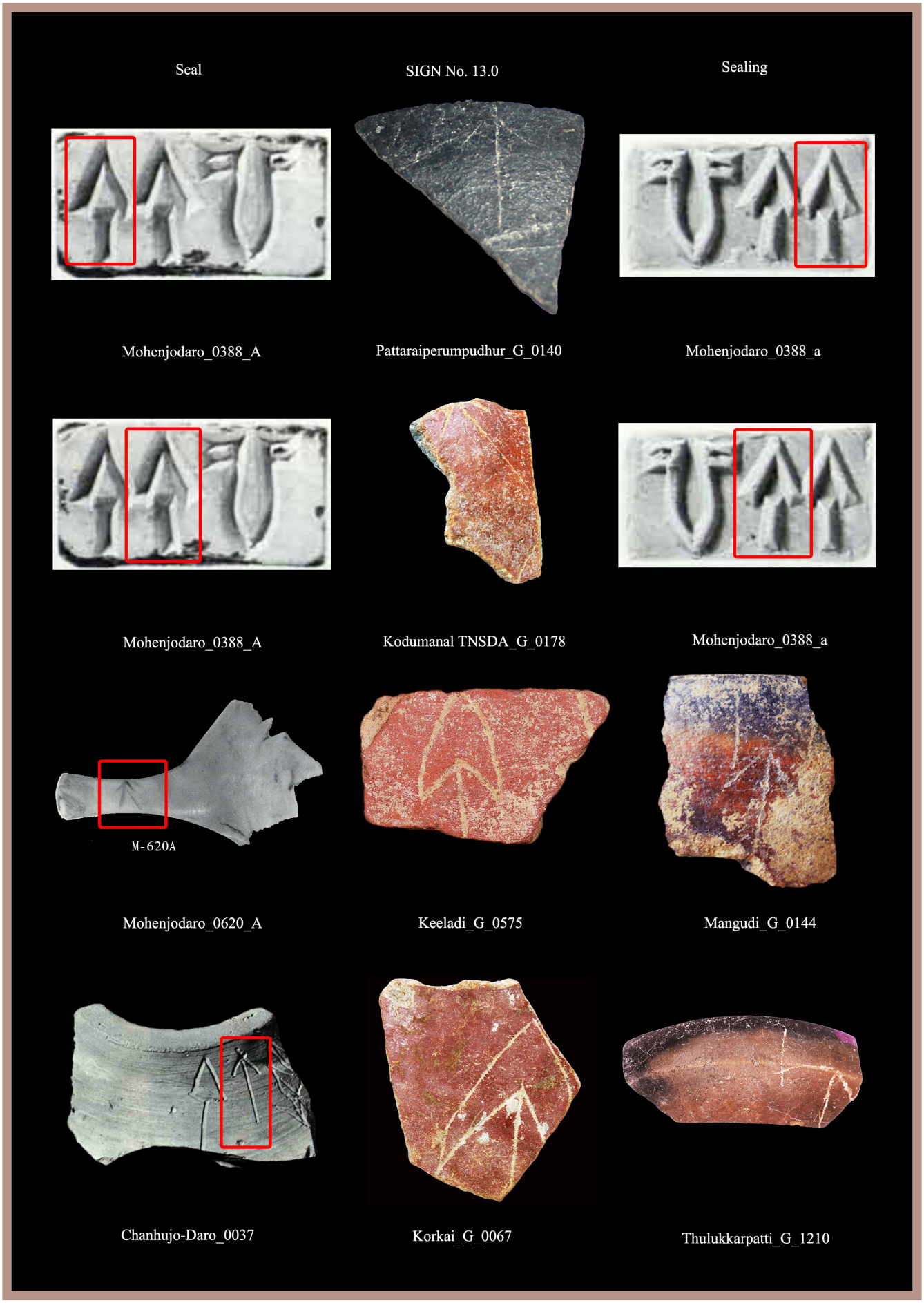


Plate-38_IVC_Sign_13.0

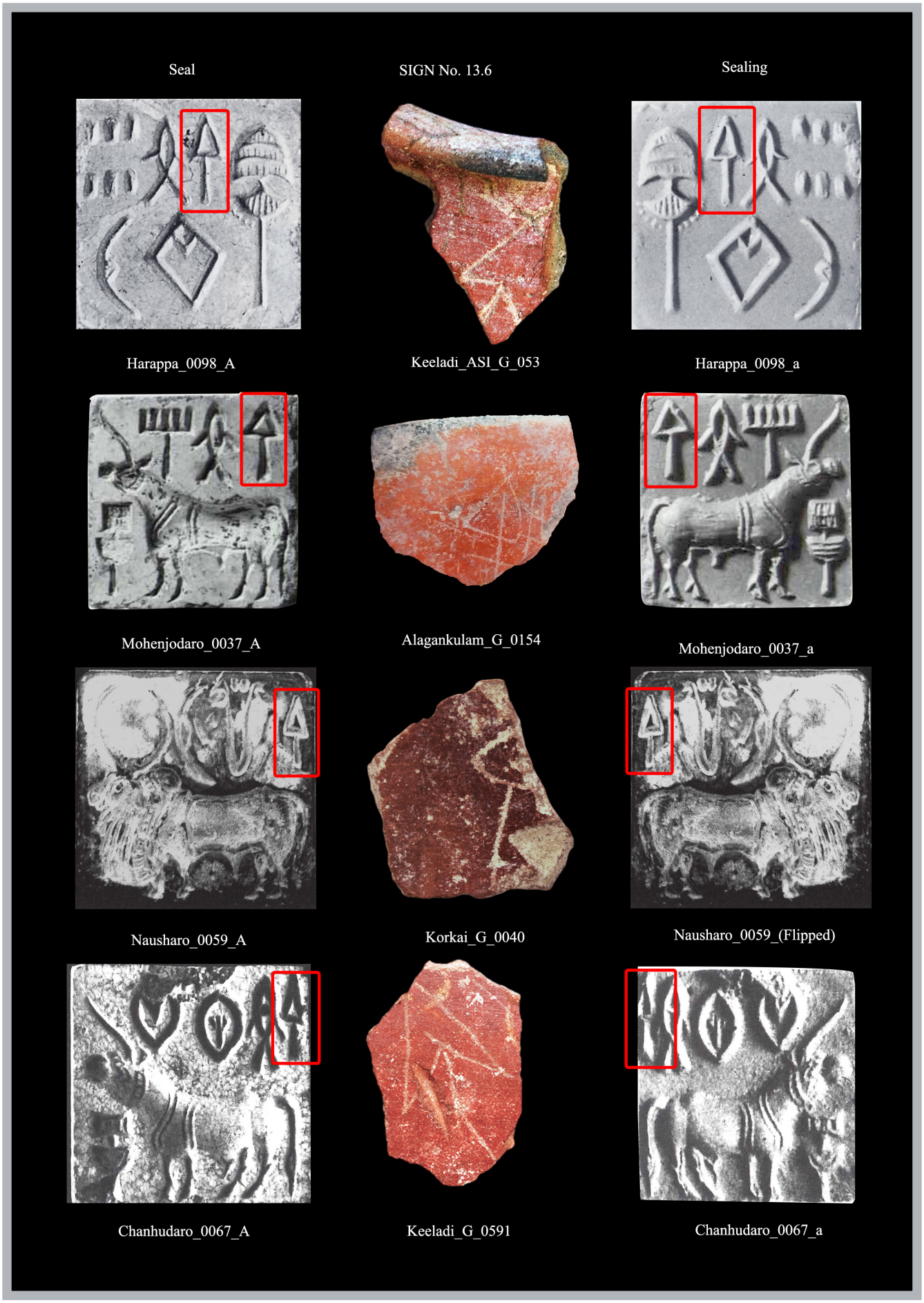


Plate-39_IVC_Sign_13.6

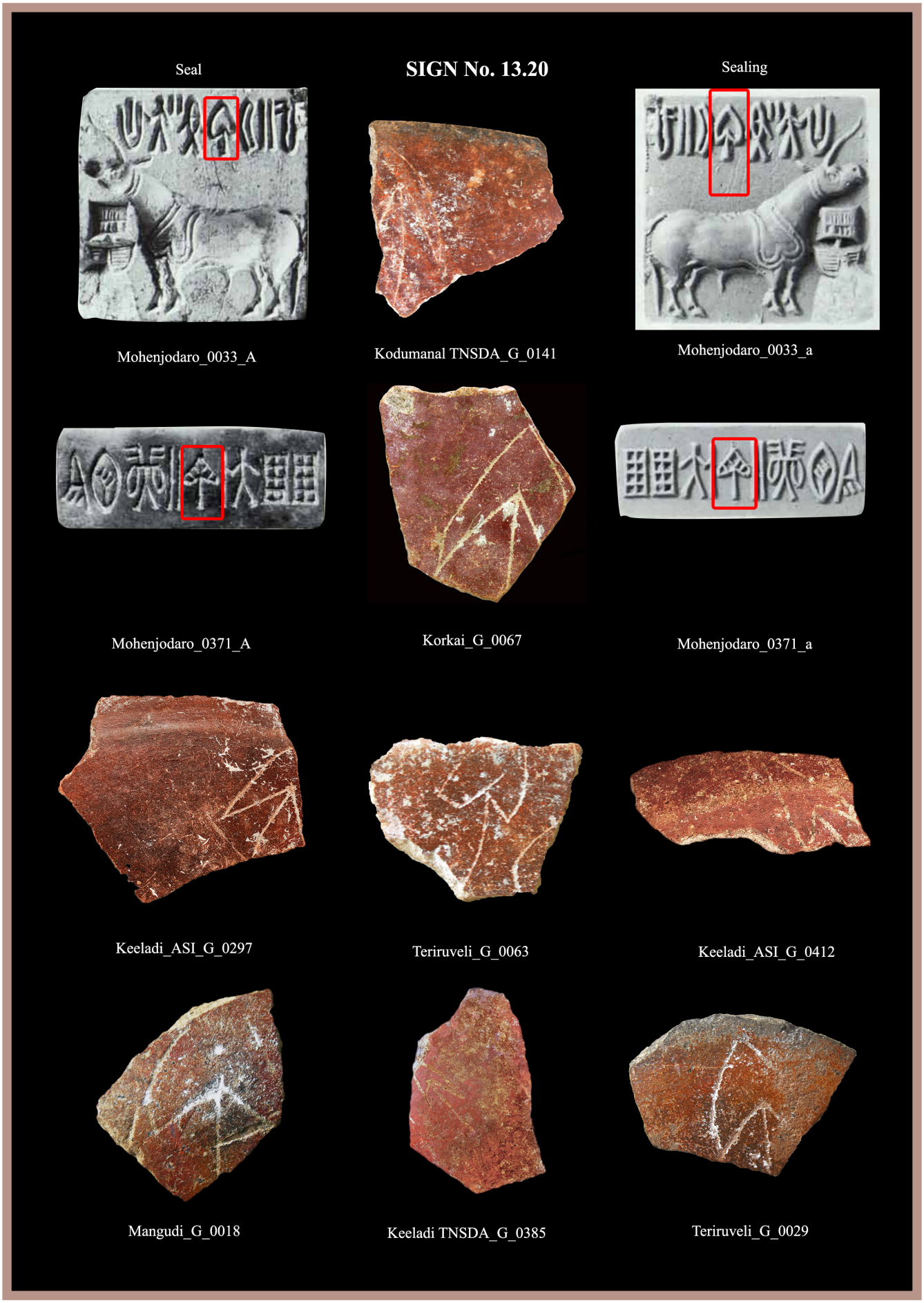


Plate-40_IVC_Sign_13.20

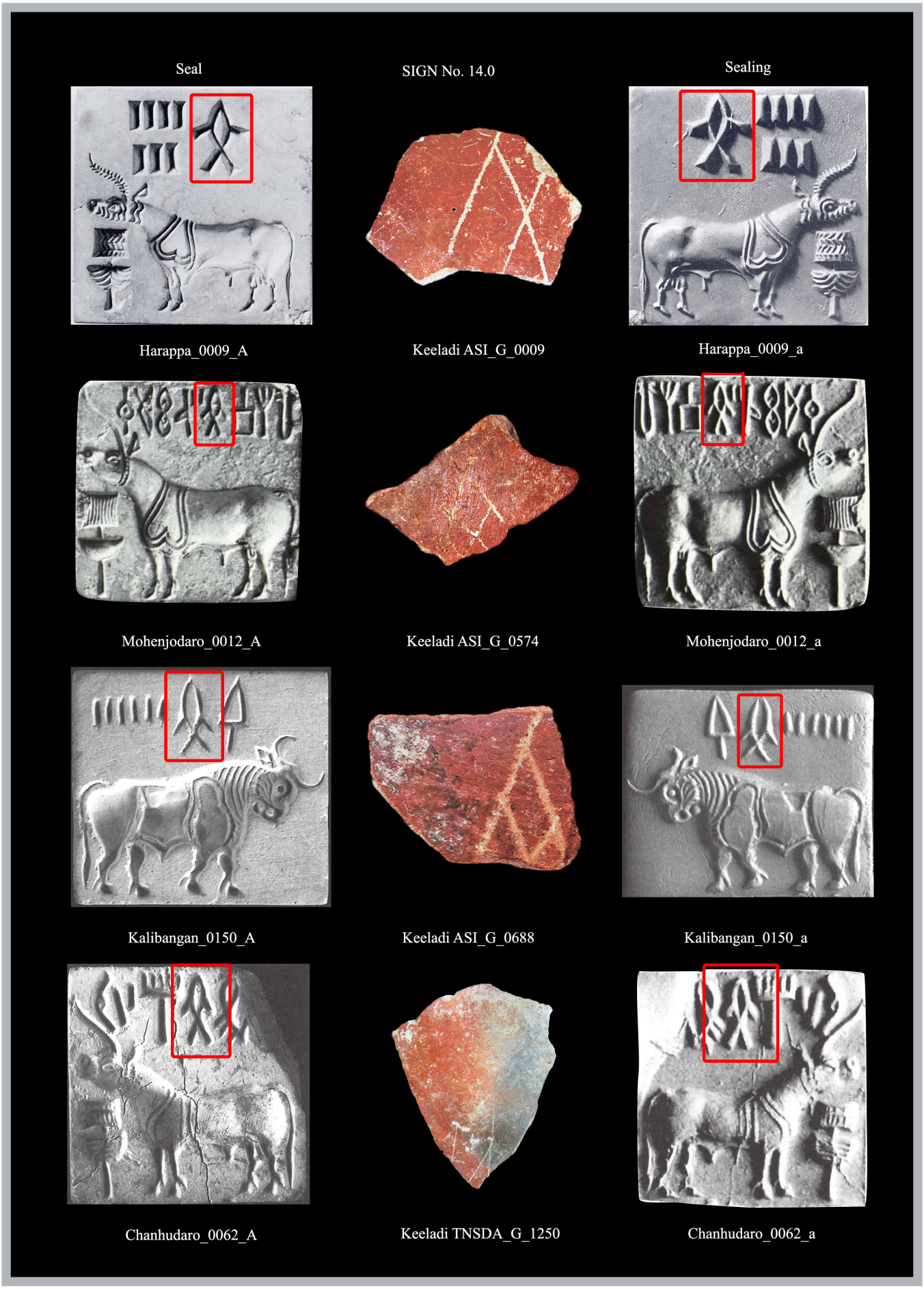


Plate-41_IVC_Sign_14.0

Plate-42_IVC_Sign_14.0

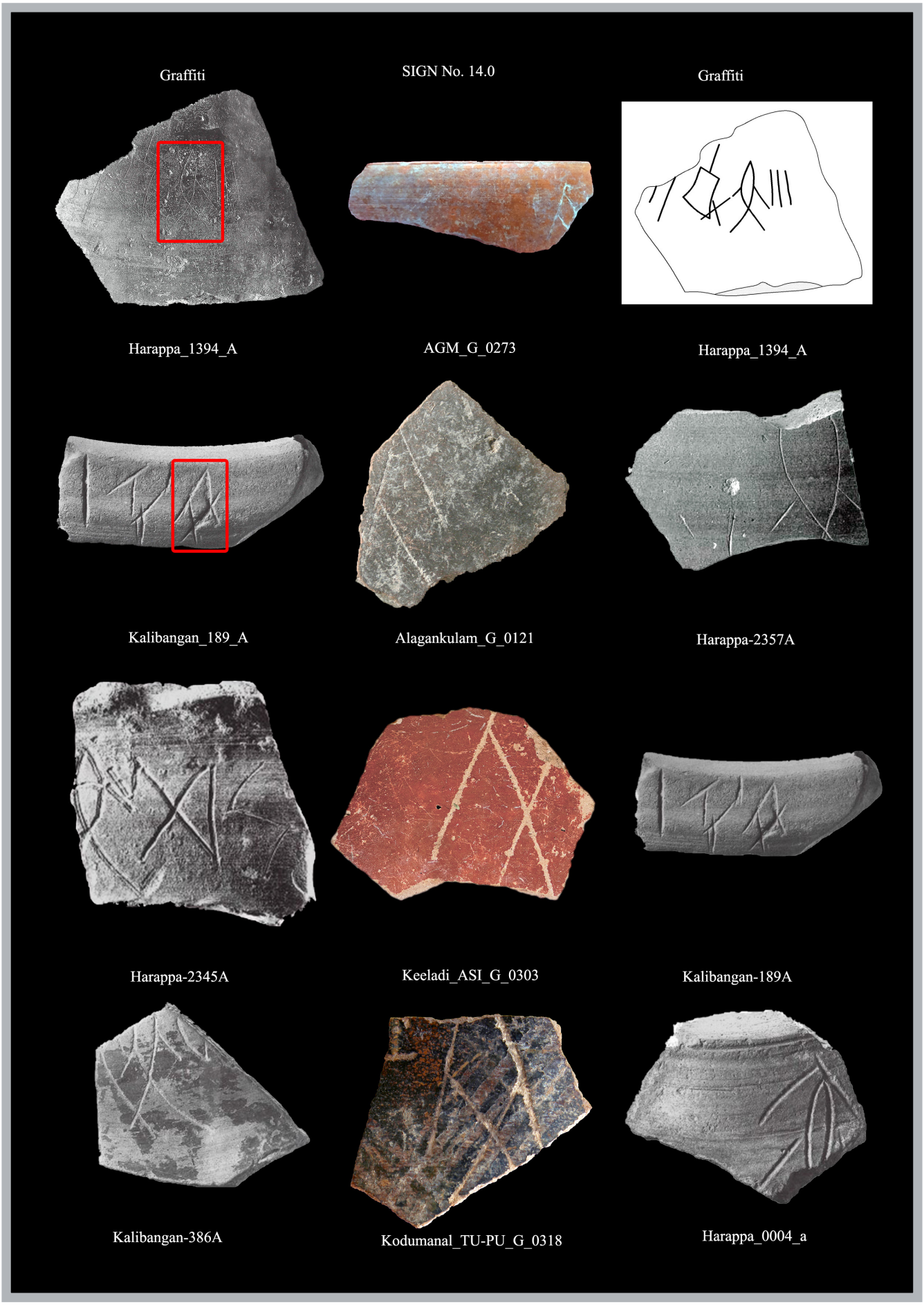


Plate-43_IVC_Sign_14.0

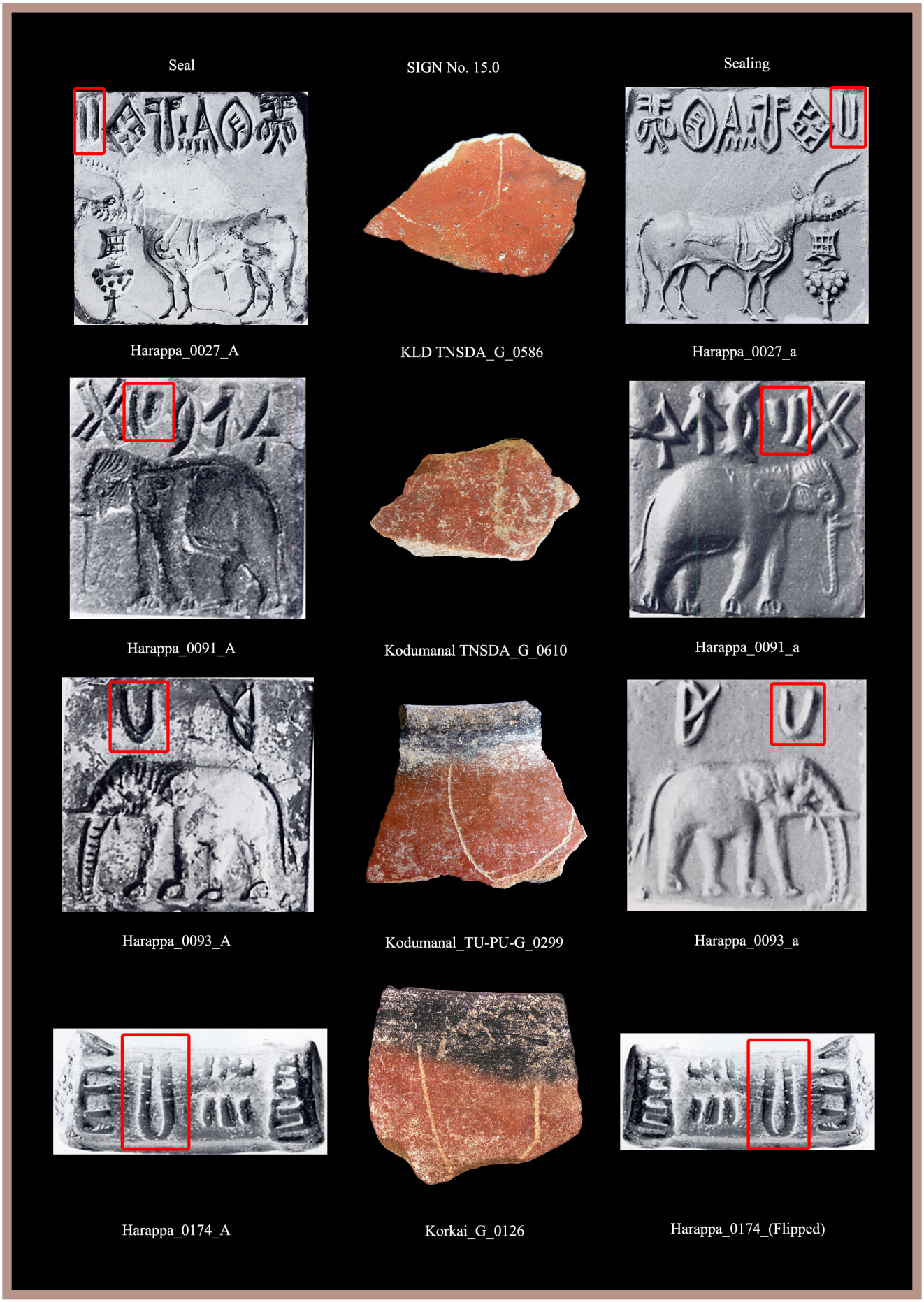


Plate-44_IVC_Sign_15.0

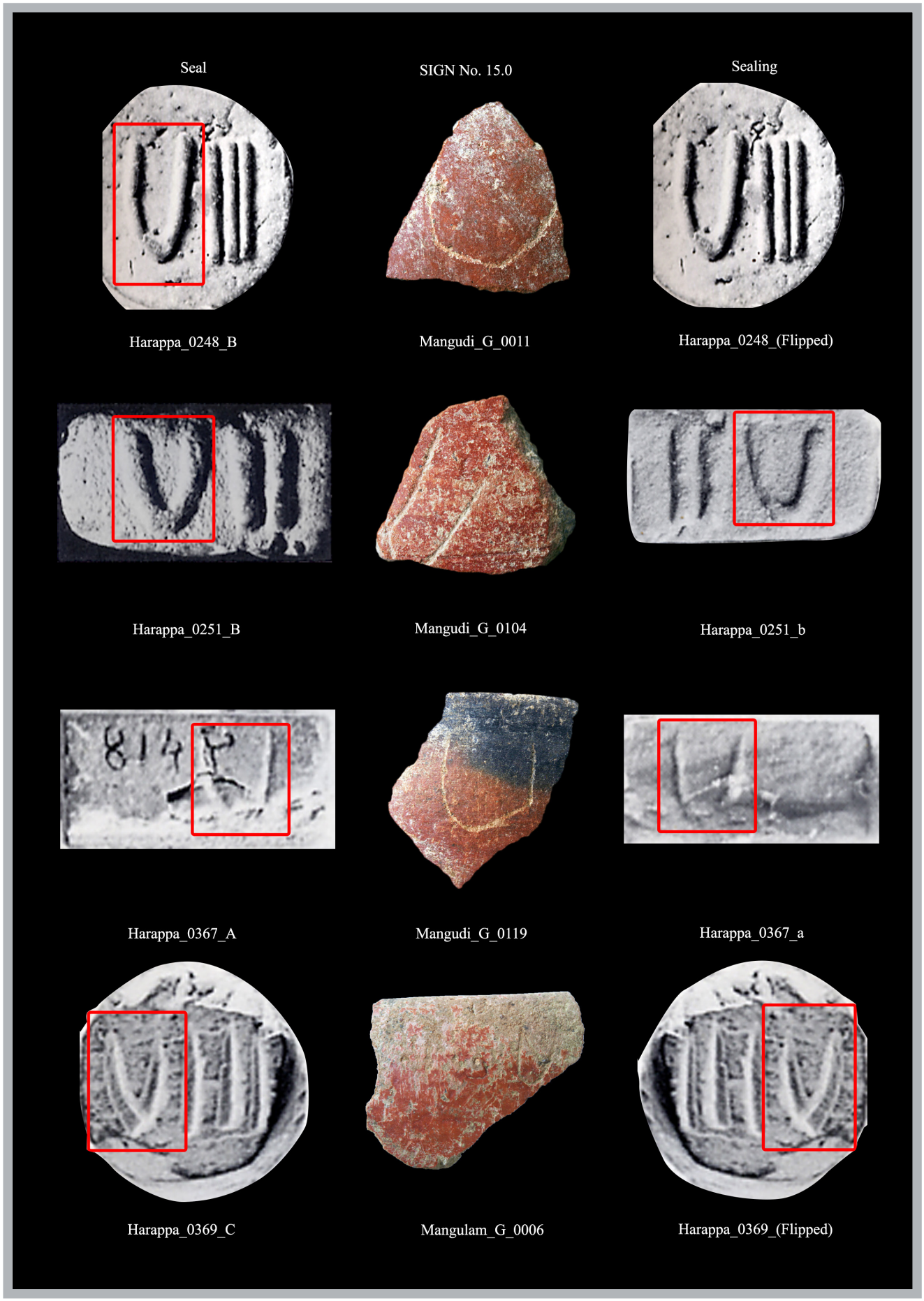


Plate-45_IVC_Sign_15.0

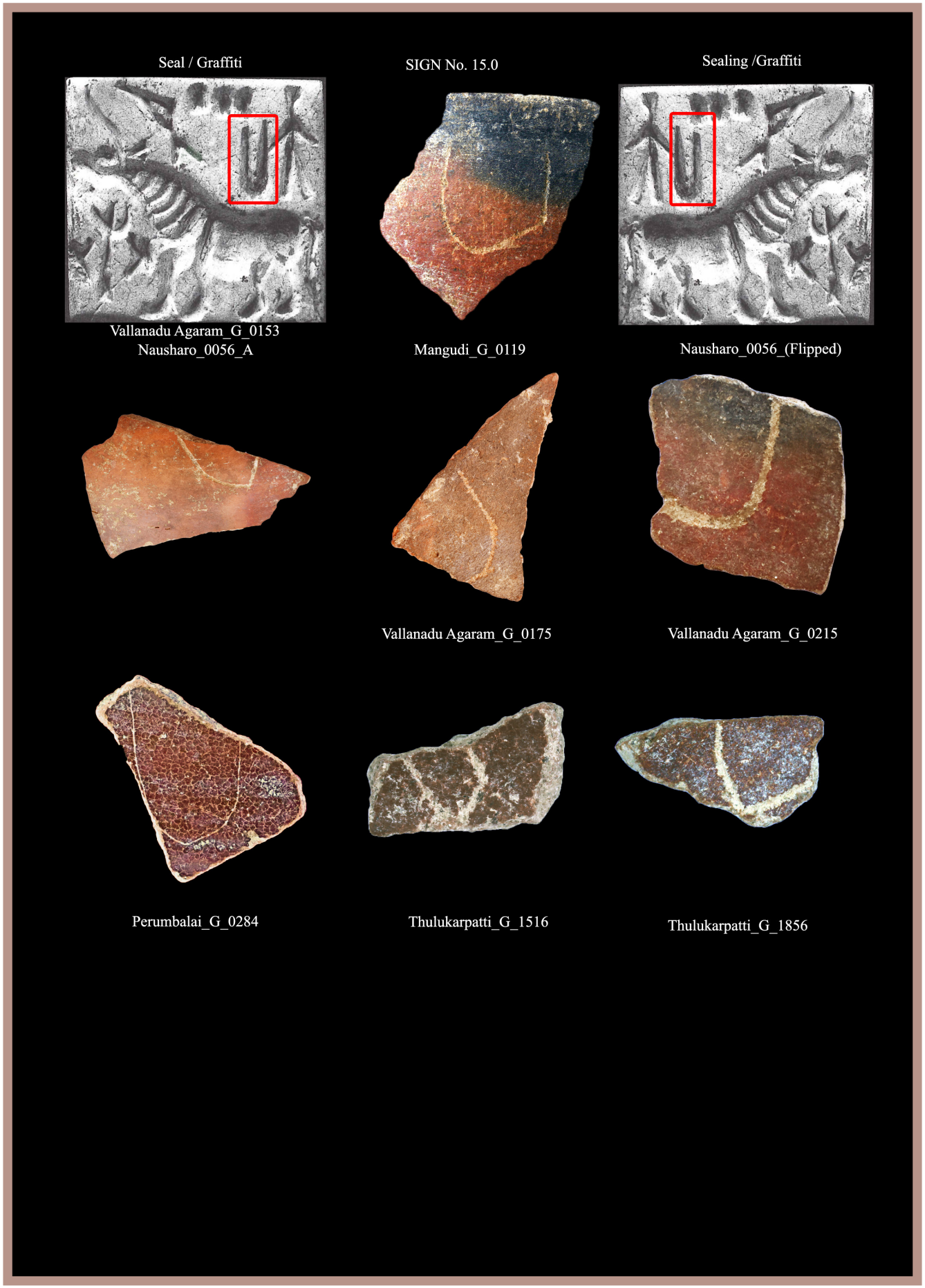


Plate-46_IVC_Sign_15.0

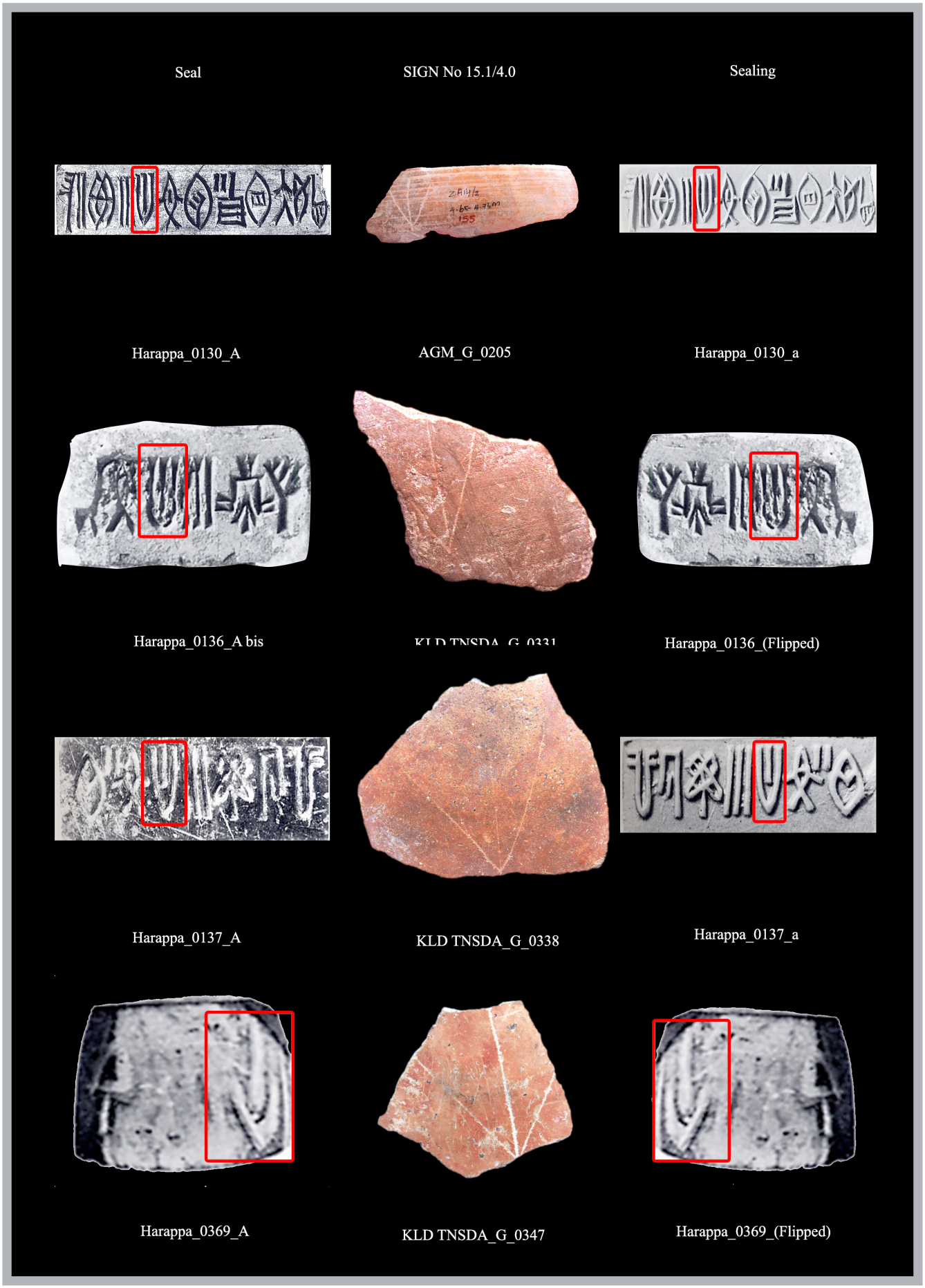


Plate-47_IVC_Sign_15.1

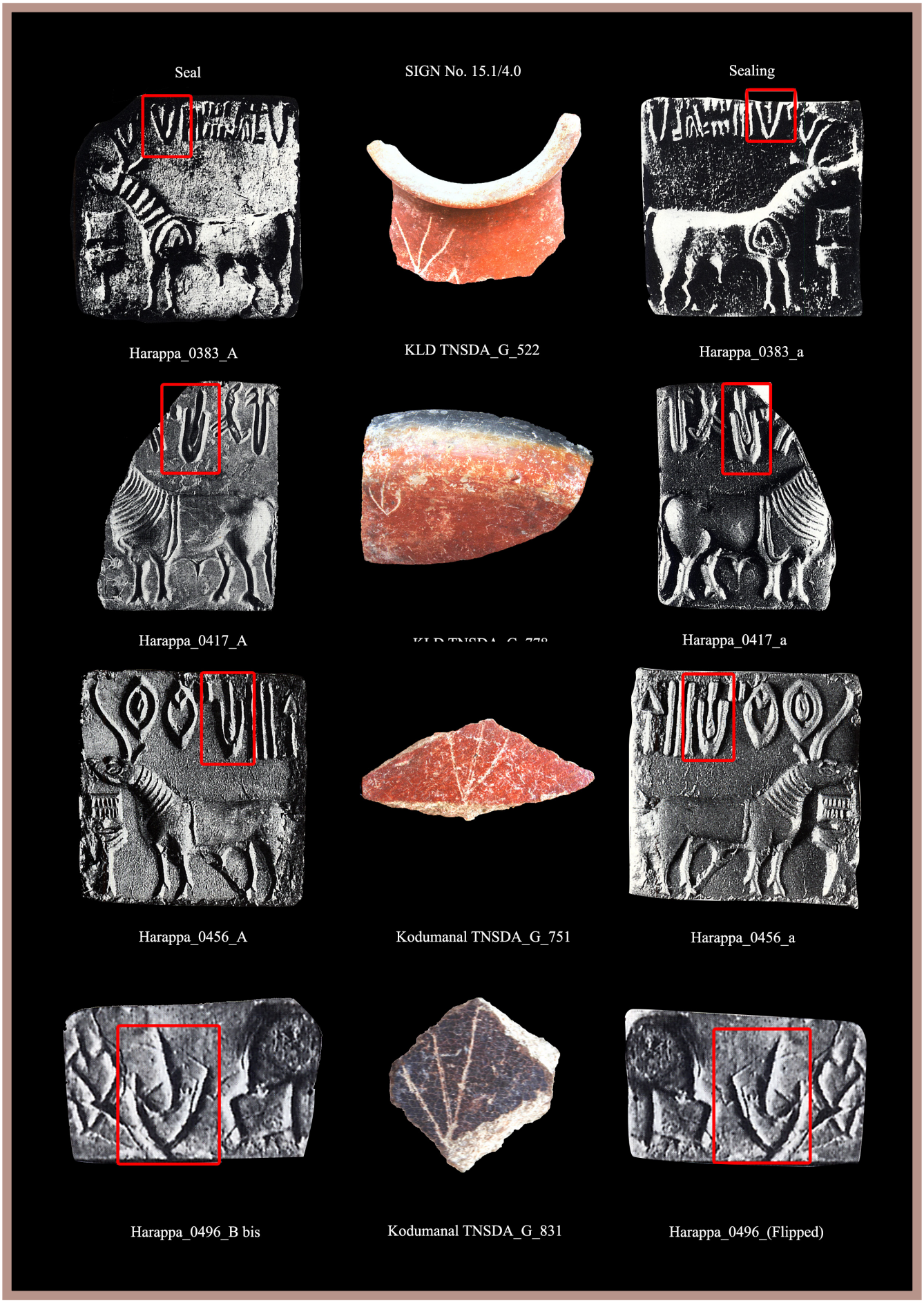
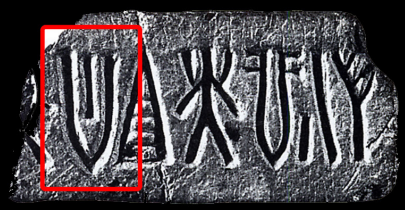


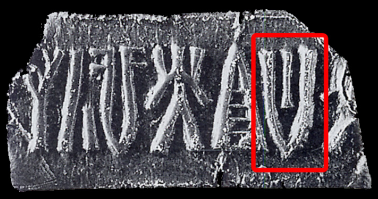
Plate-48_IVC_Sign_15.1

Seal

SIGN No. 15.1/4.0

Sealing

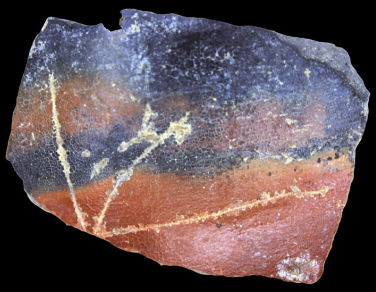


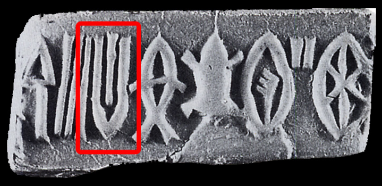


Harappa_0641_A

Kodumanal TU-PU_G_0391

Harappa_0641_a





Harappa_0649_A

Thulukarpatti_G_0673

Harappa_0649_a

Harappa_0885A

Thulukarpatti_G_4580

Mohenjadaro_0863_A

Thulukarpatti_G_4763

Mohenjadaro_0863_a

Plate-49_IVC_Sign_15.1

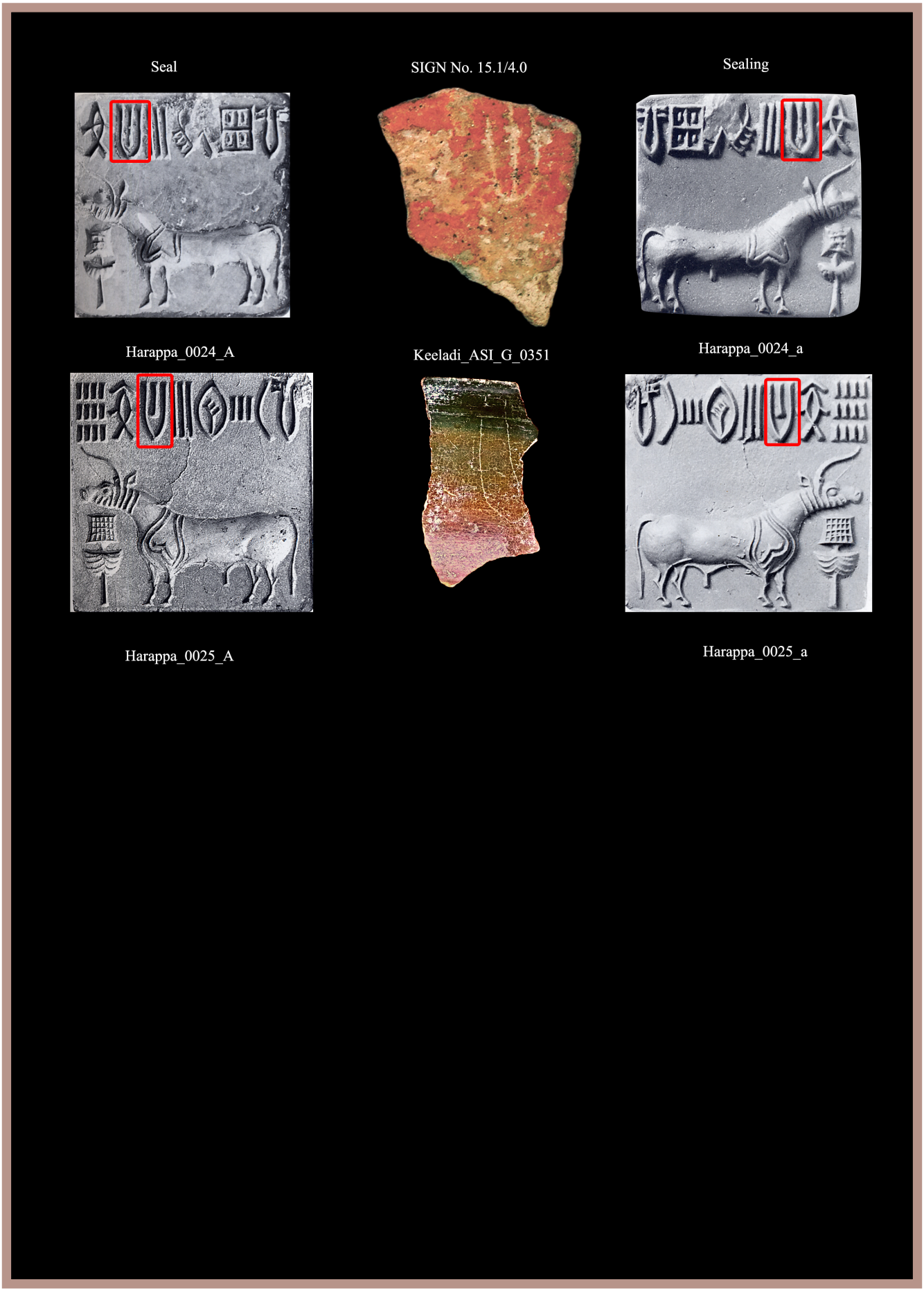


Plate-50_IVC_Sign_15.1

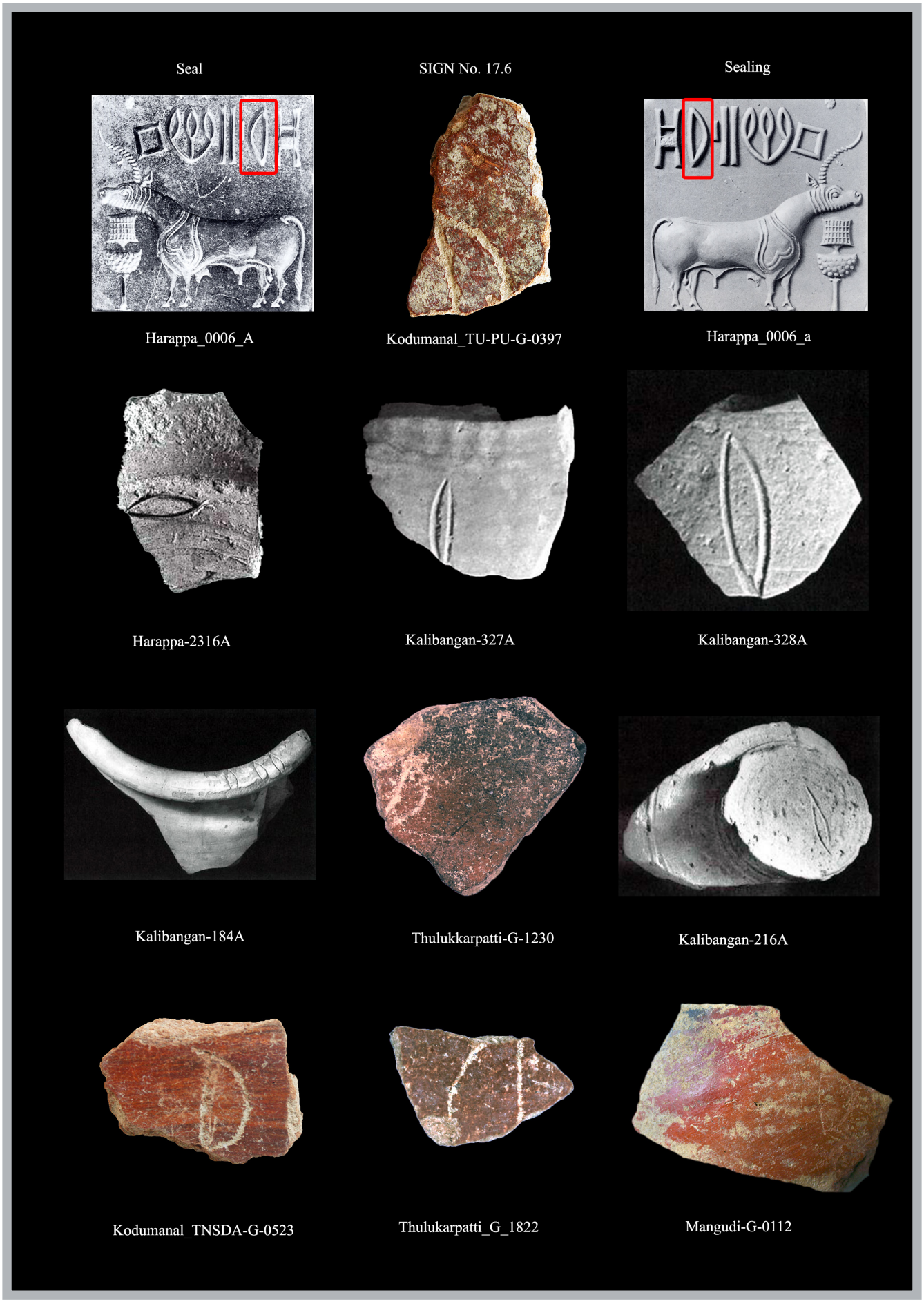


Plate-51_IVC_Sign_17.6

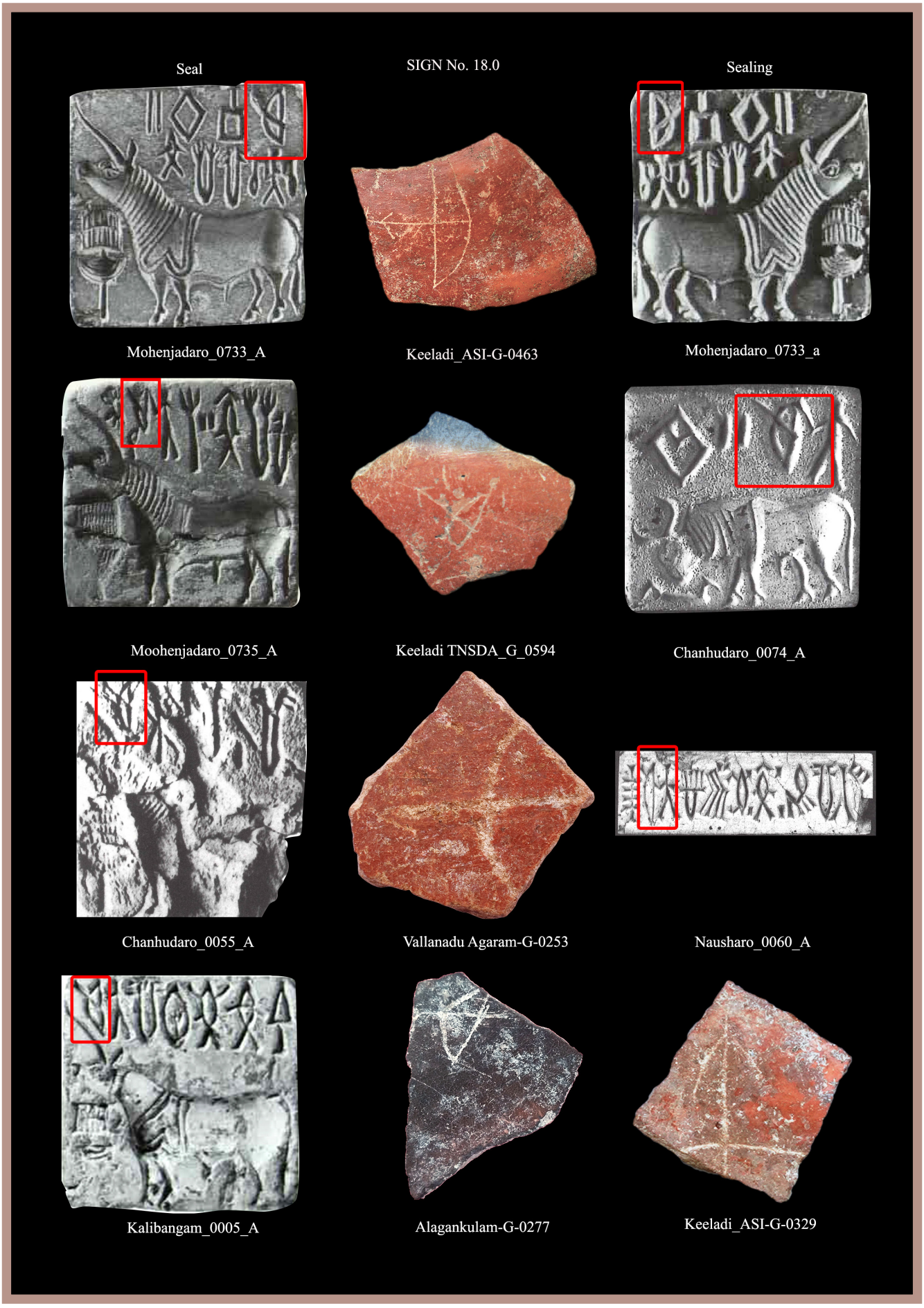


Plate-52_IVC_Sign_18.0

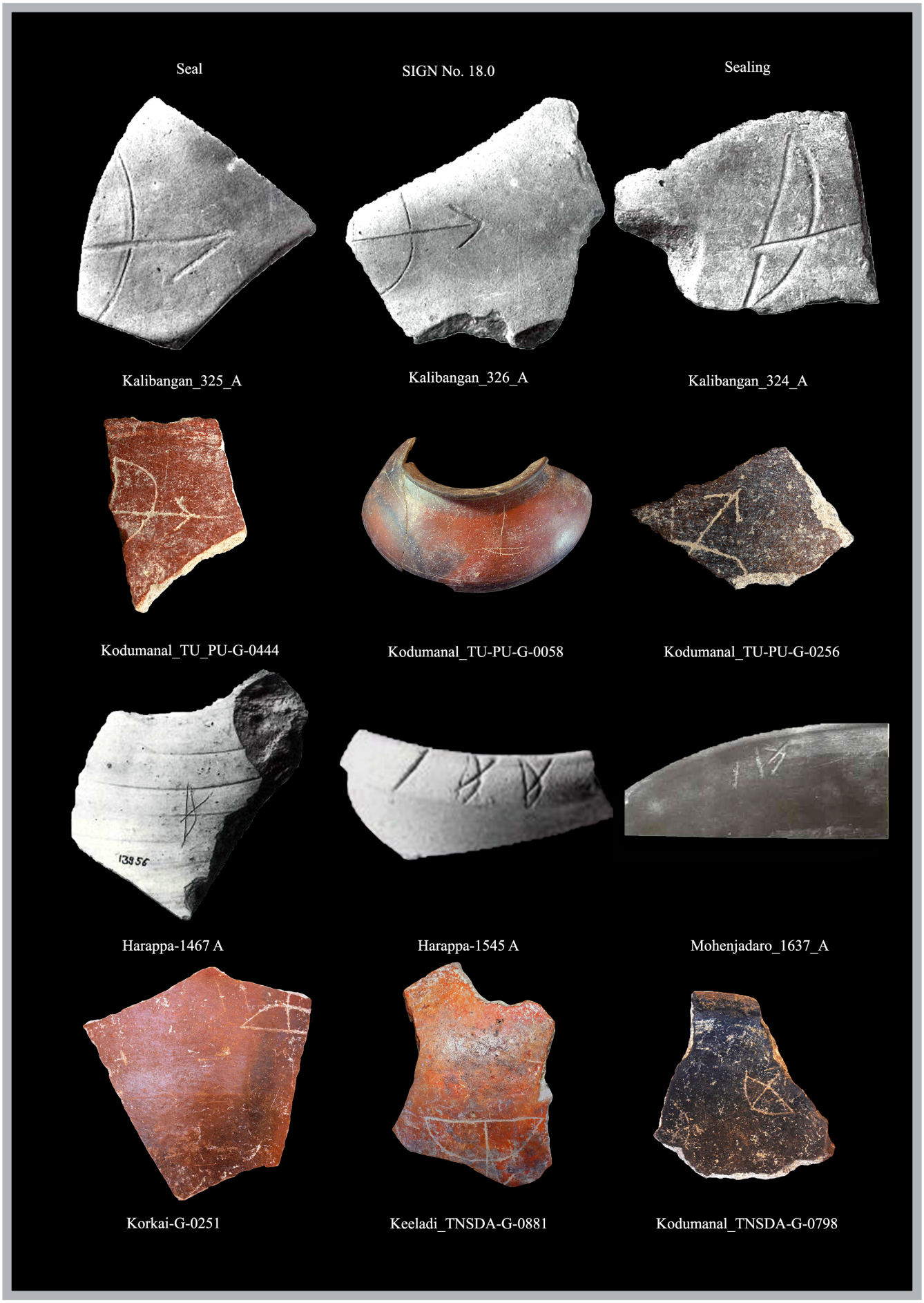


Plate-53_IVC_Sign_18.0

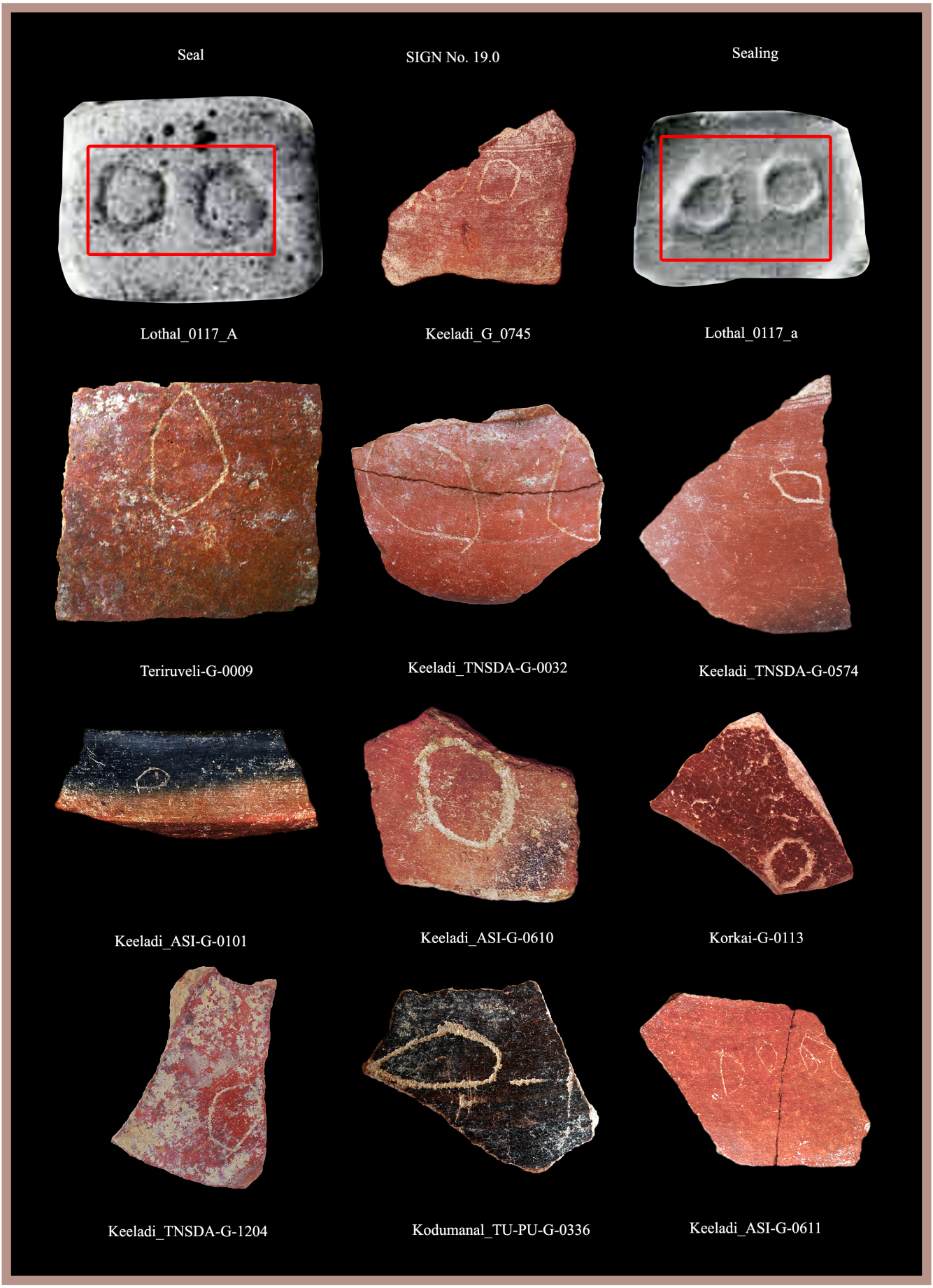


Plate-54_IVC_Sign_19.0

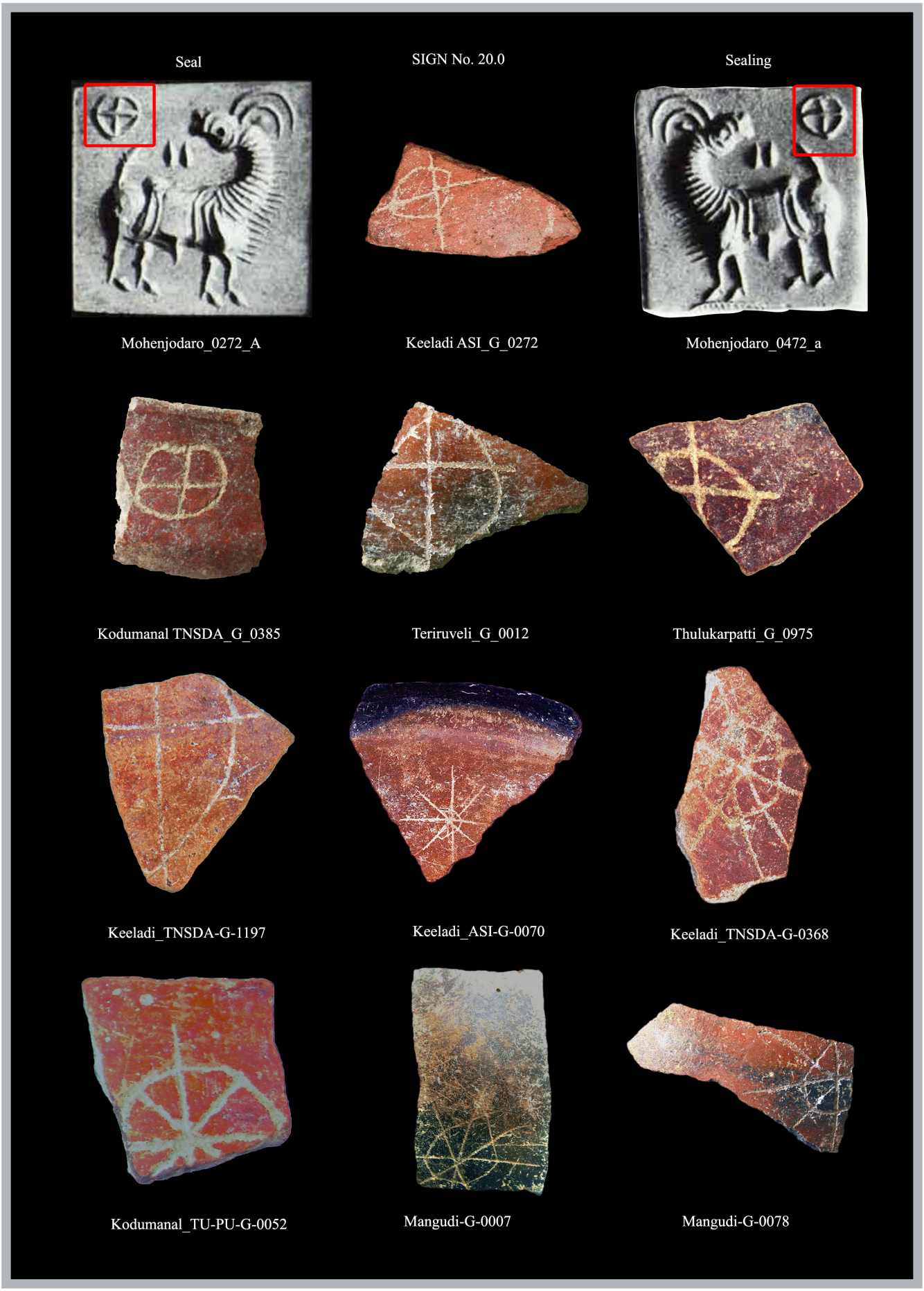


Plate-55_IVC_Sign_20.0

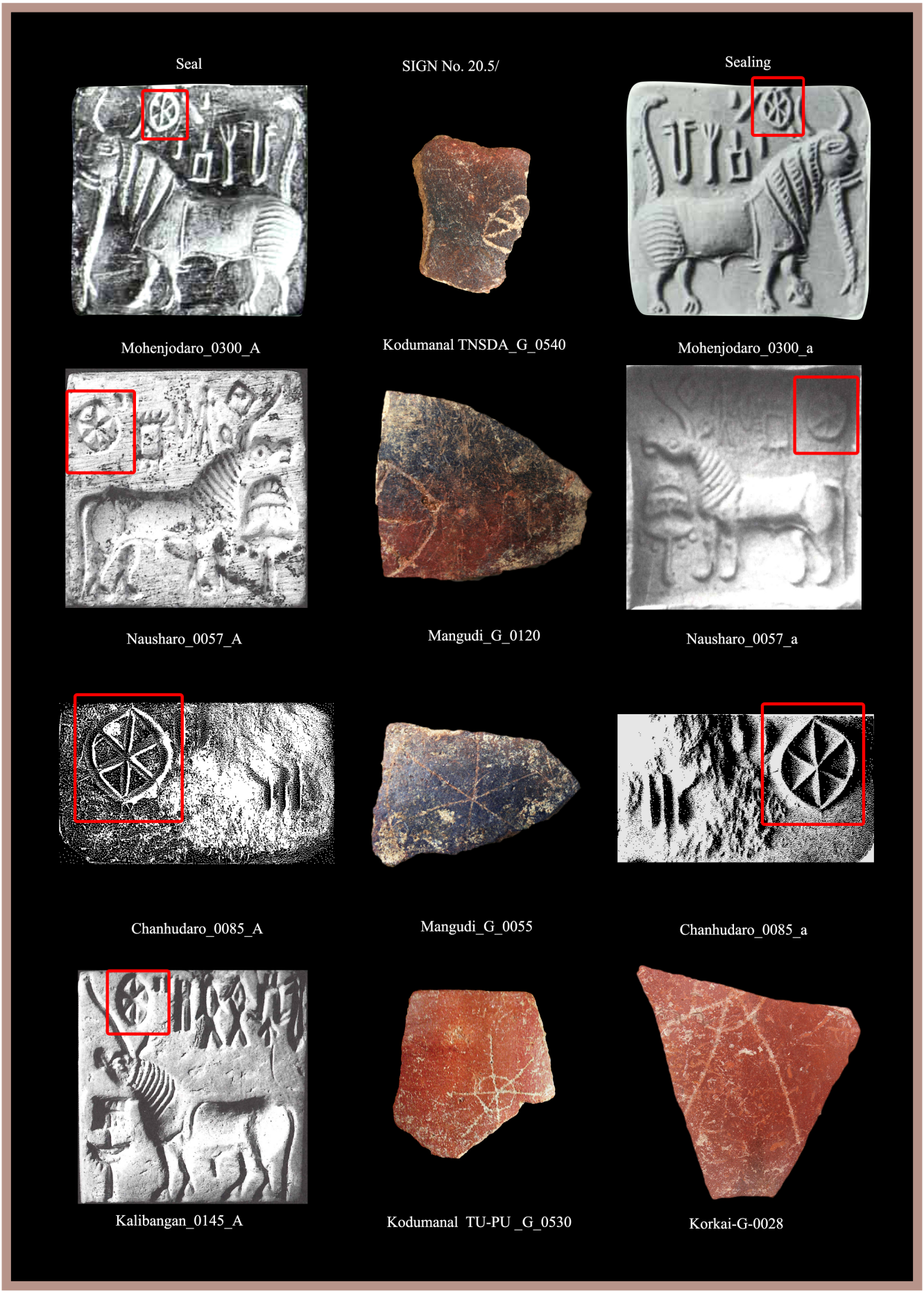


Plate-56_IVC_Sign_20.5

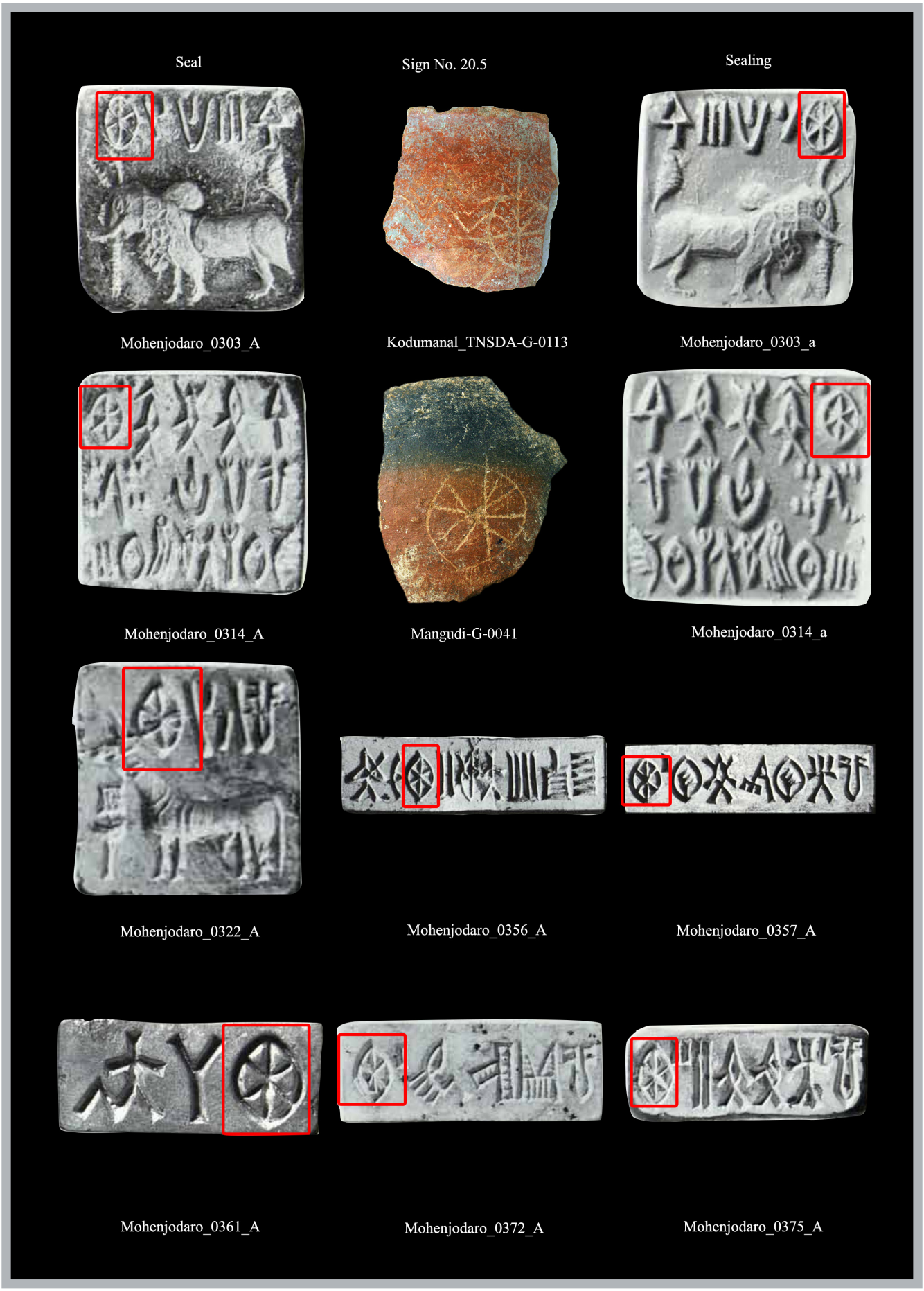


Plate-57_IVC_Sign_20.5

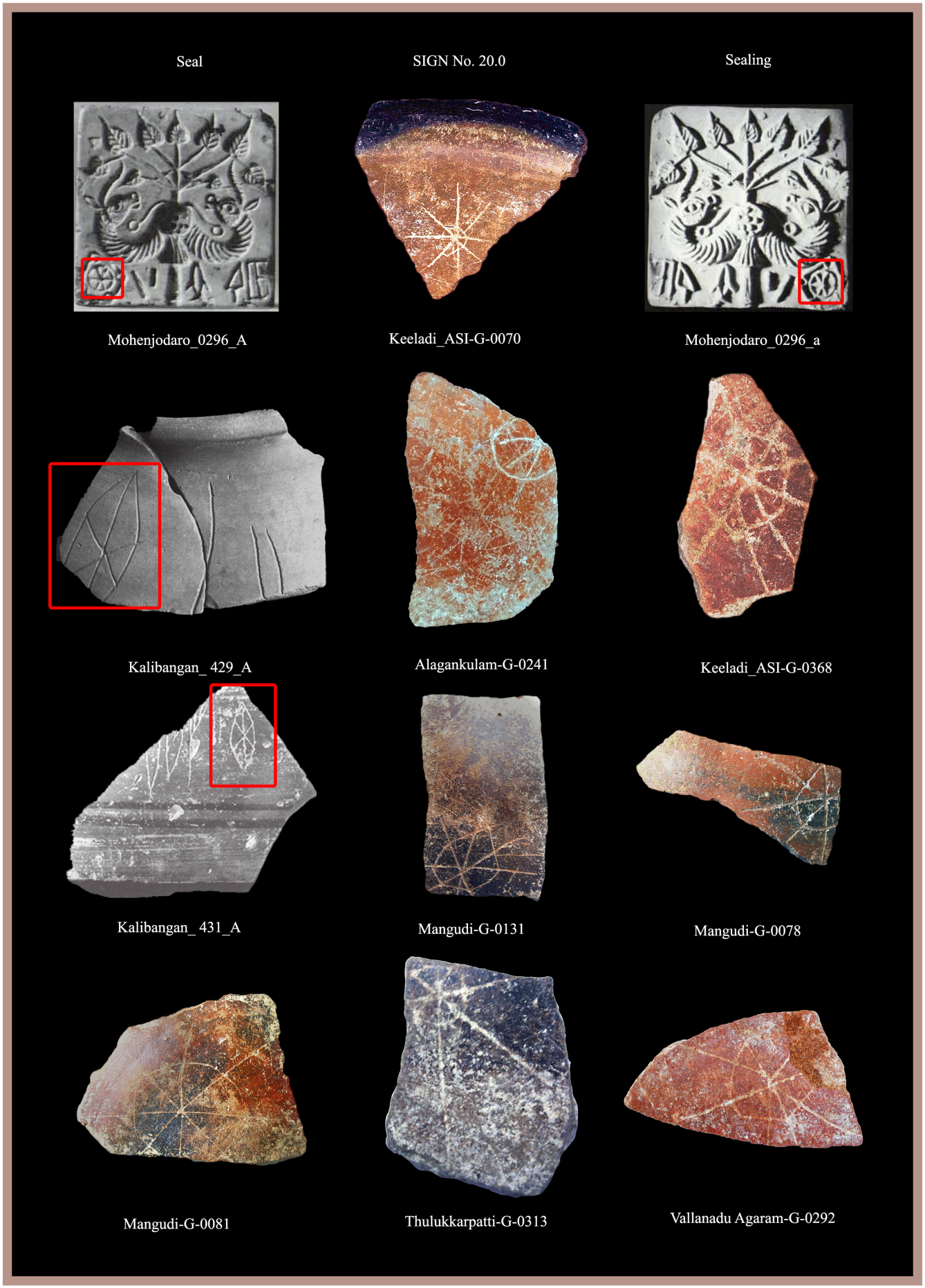


Plate-58_IVC_Sign_20.5

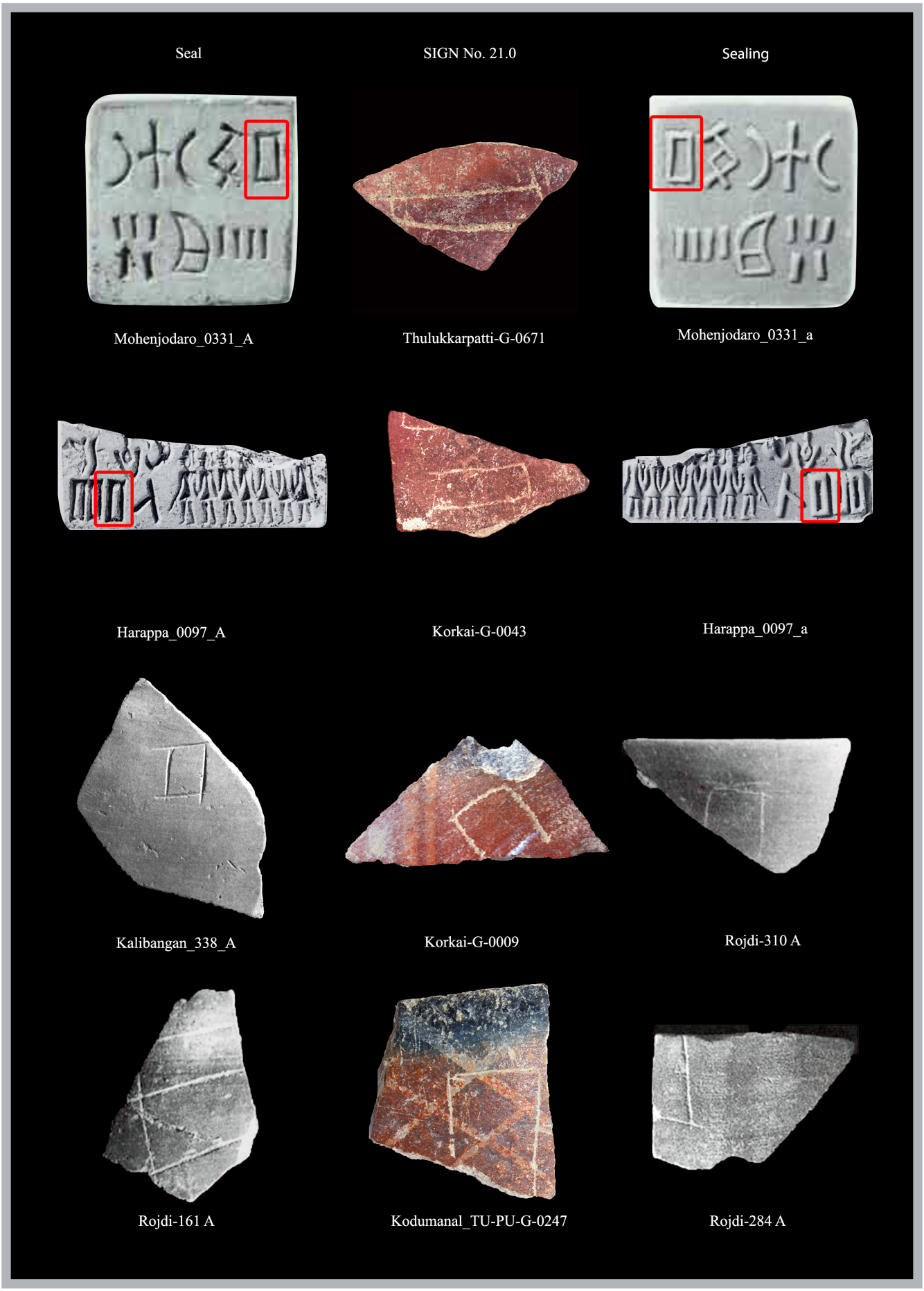


Plate-59_IVC_Sign_21.0

Plate-60_IVC_Sign_22.0

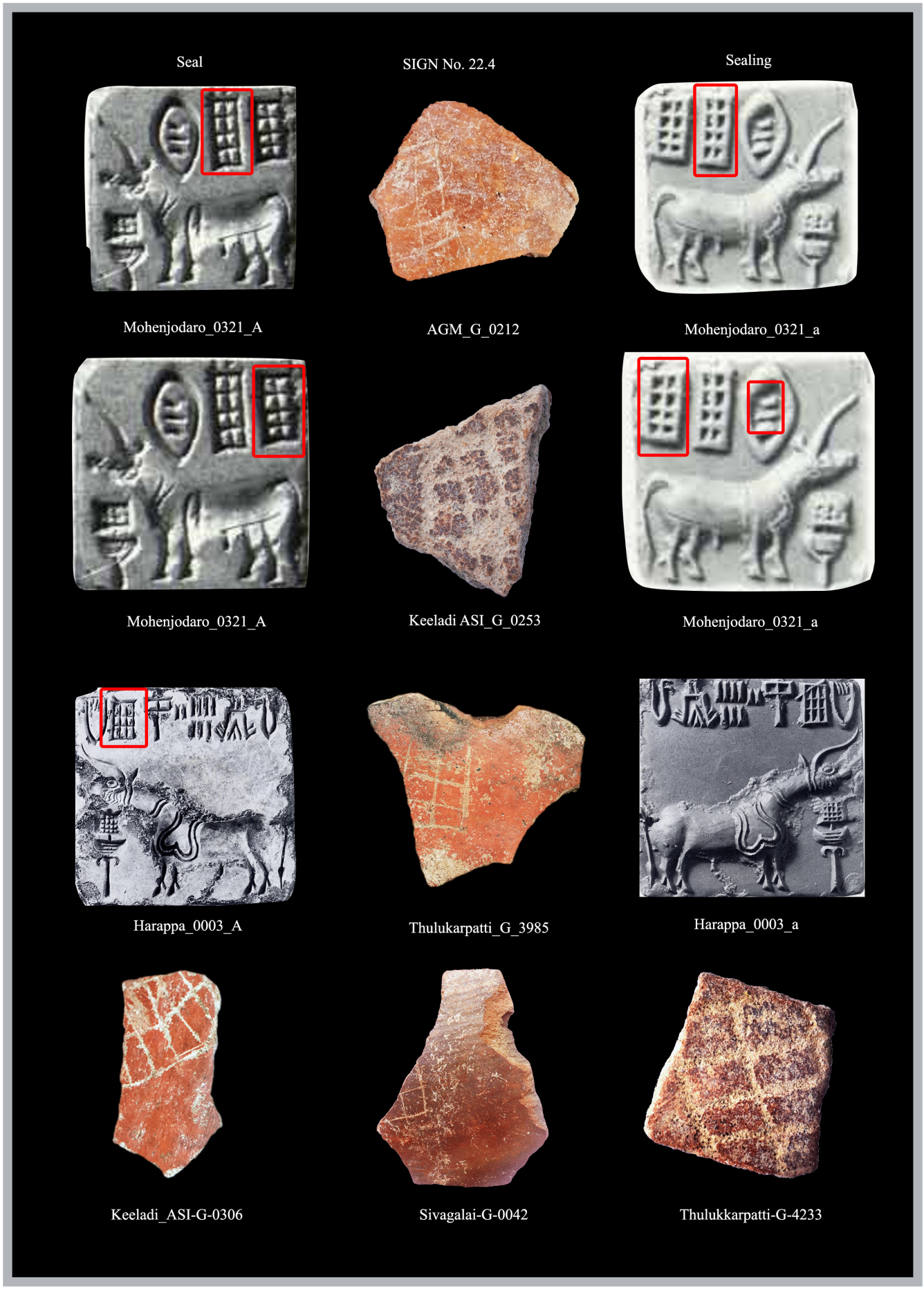


Plate-61_IVC_Sign_22.4

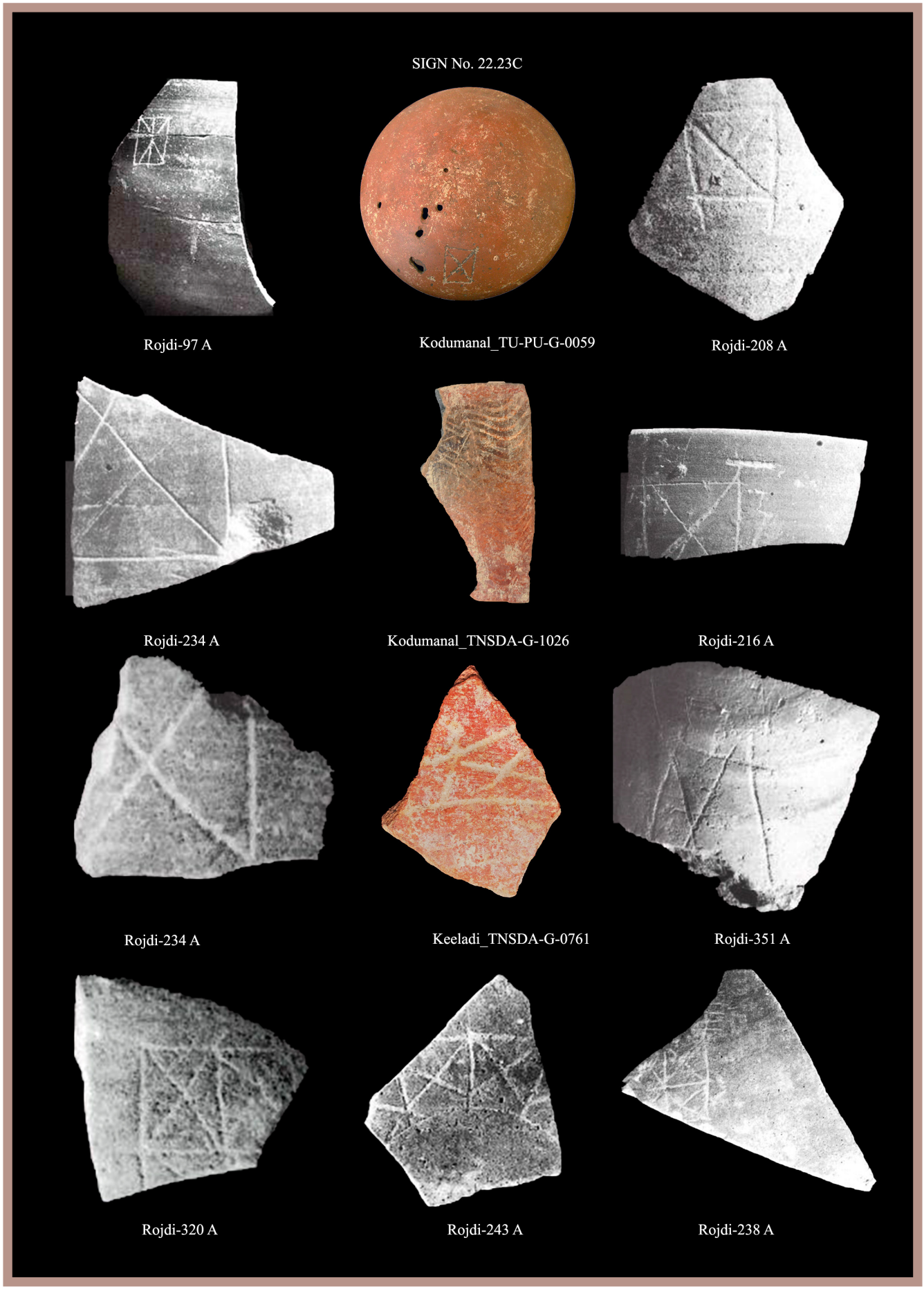
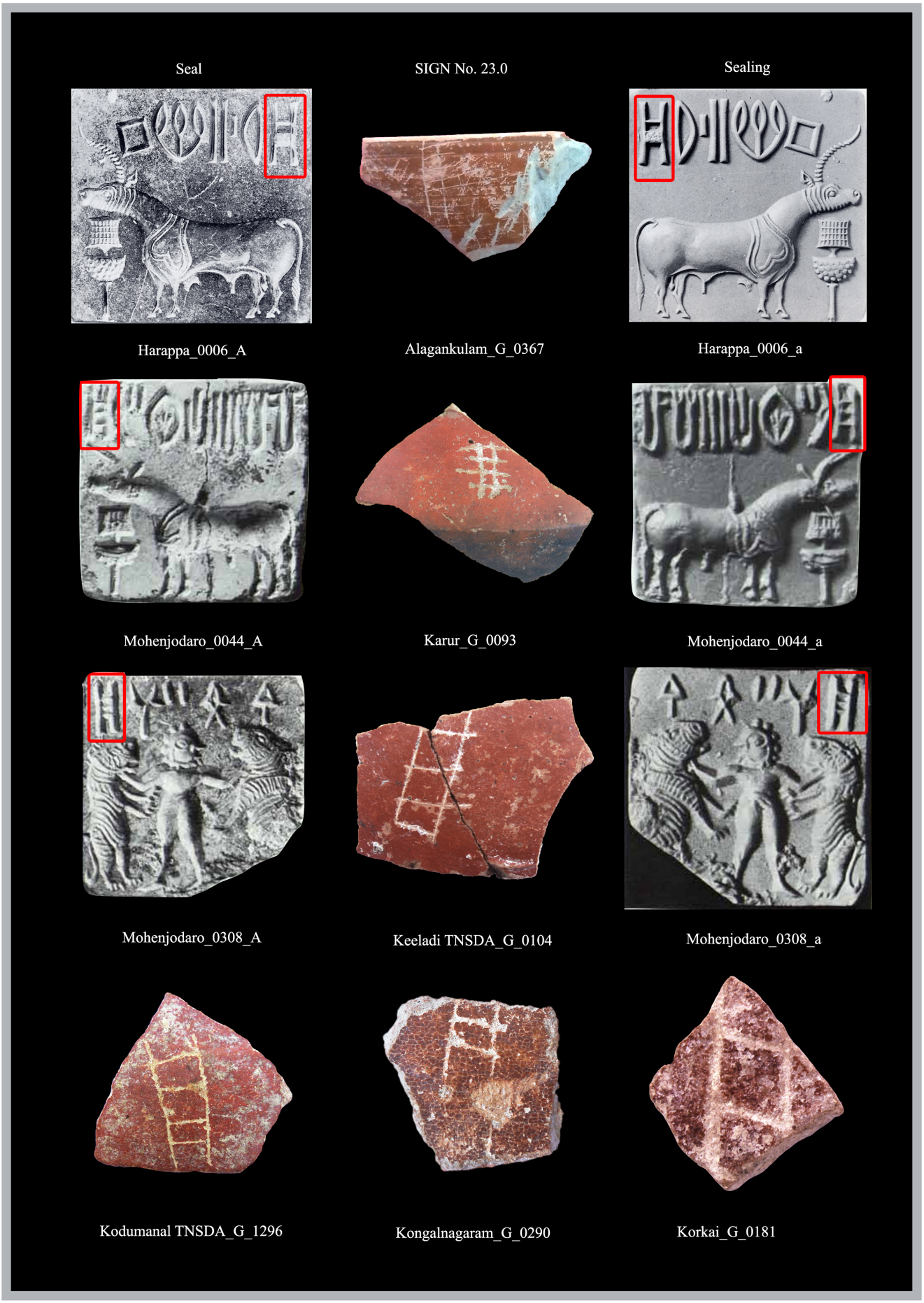


Plate-62_IVC_Sign_22.23C



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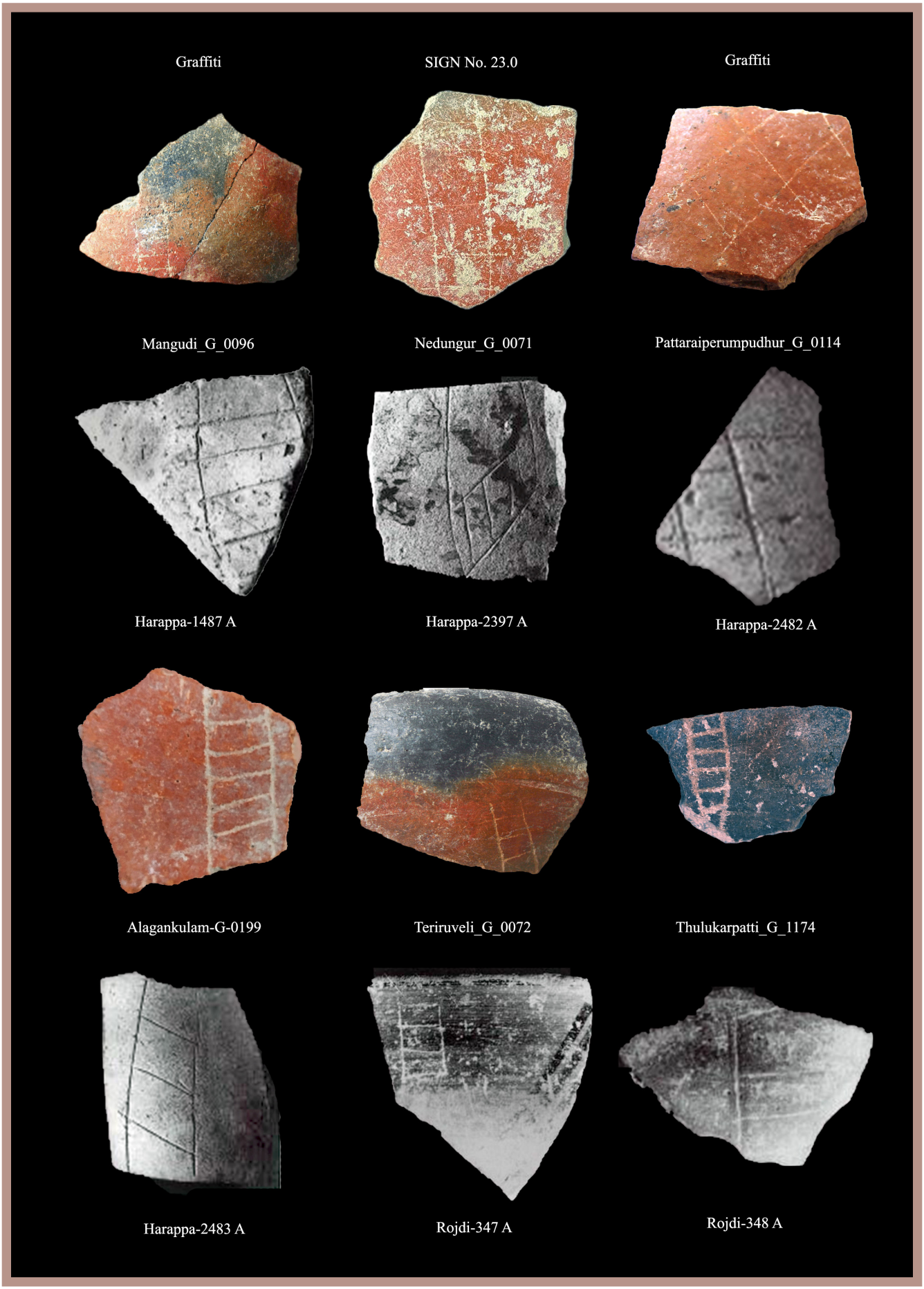

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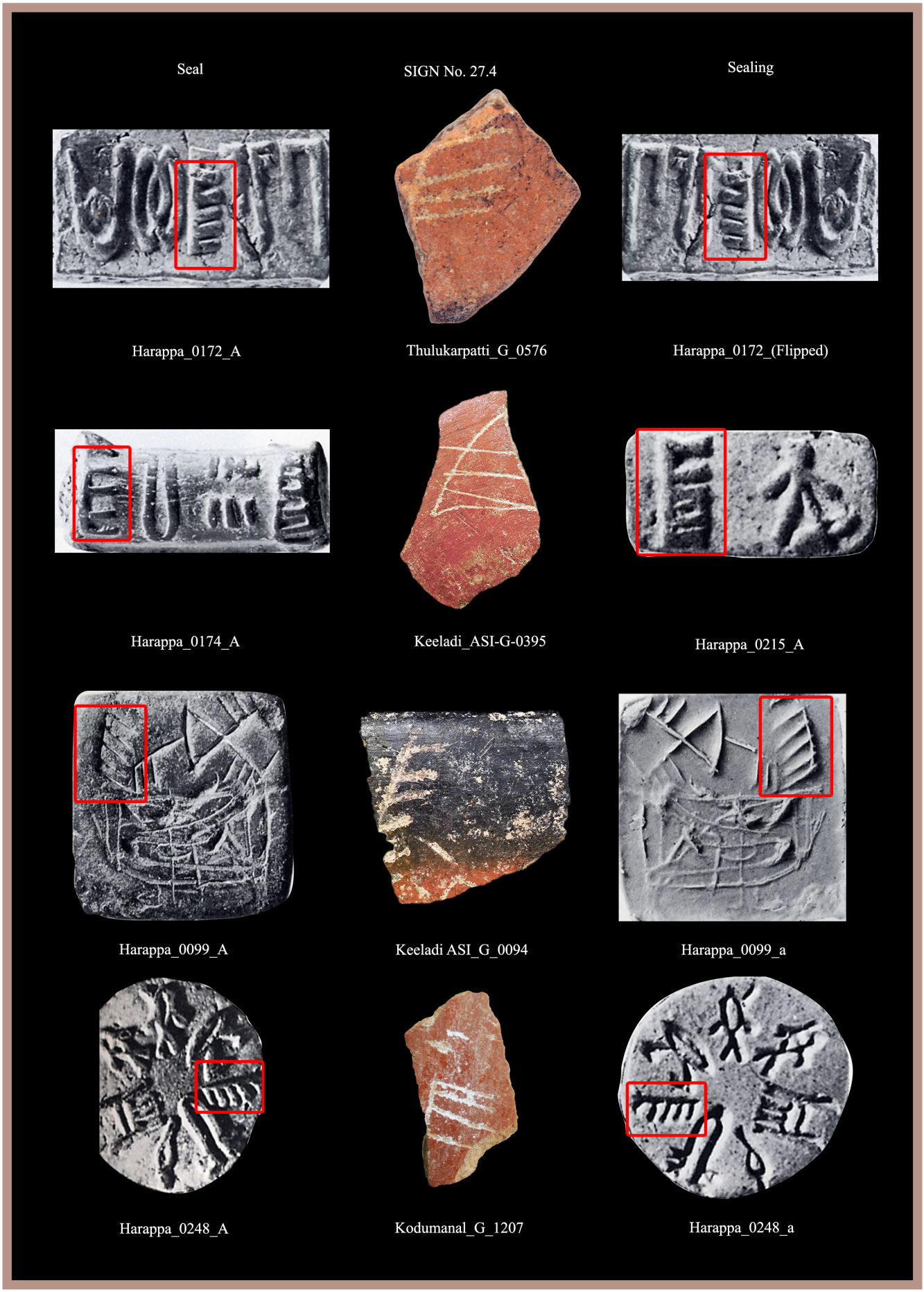

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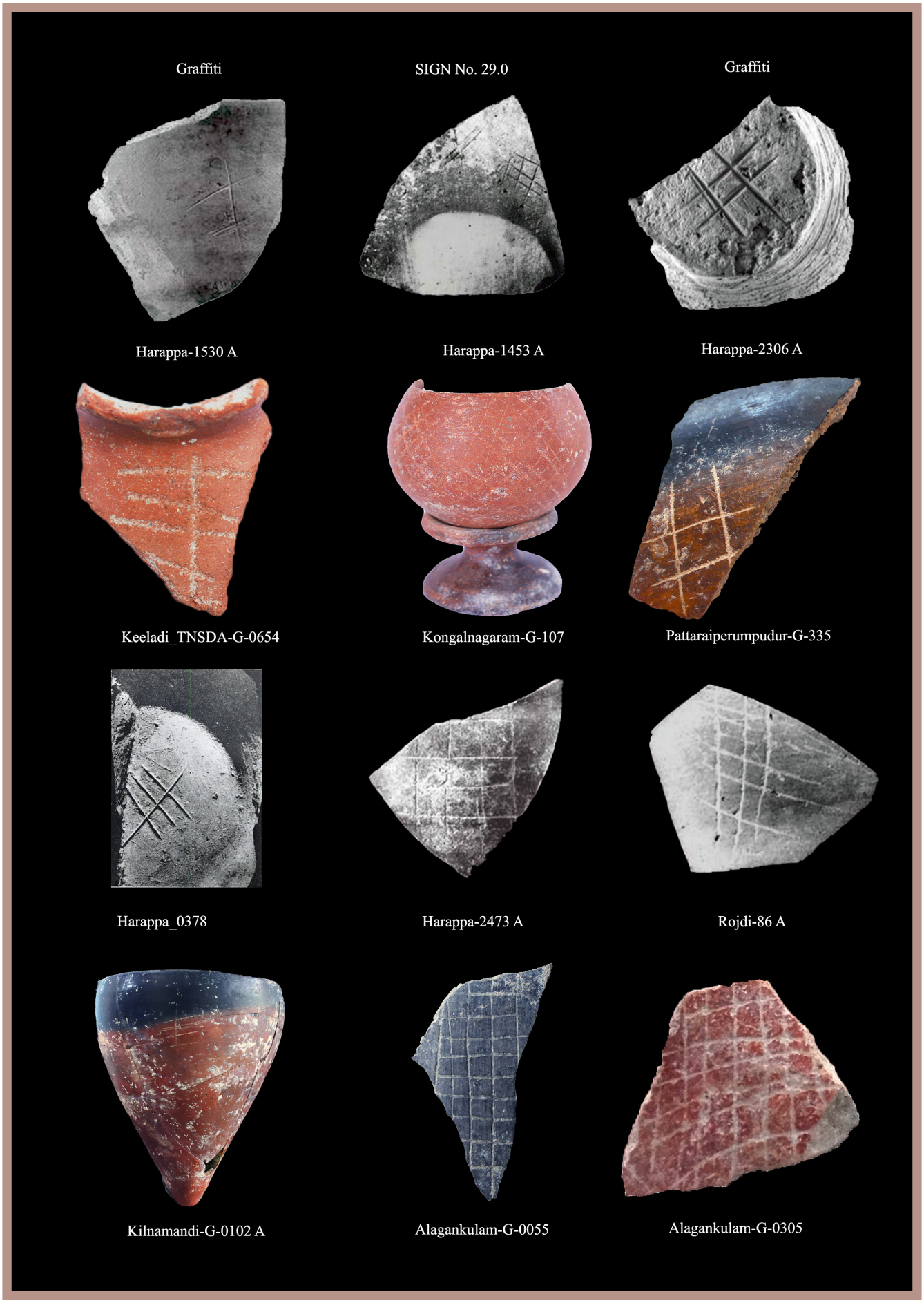

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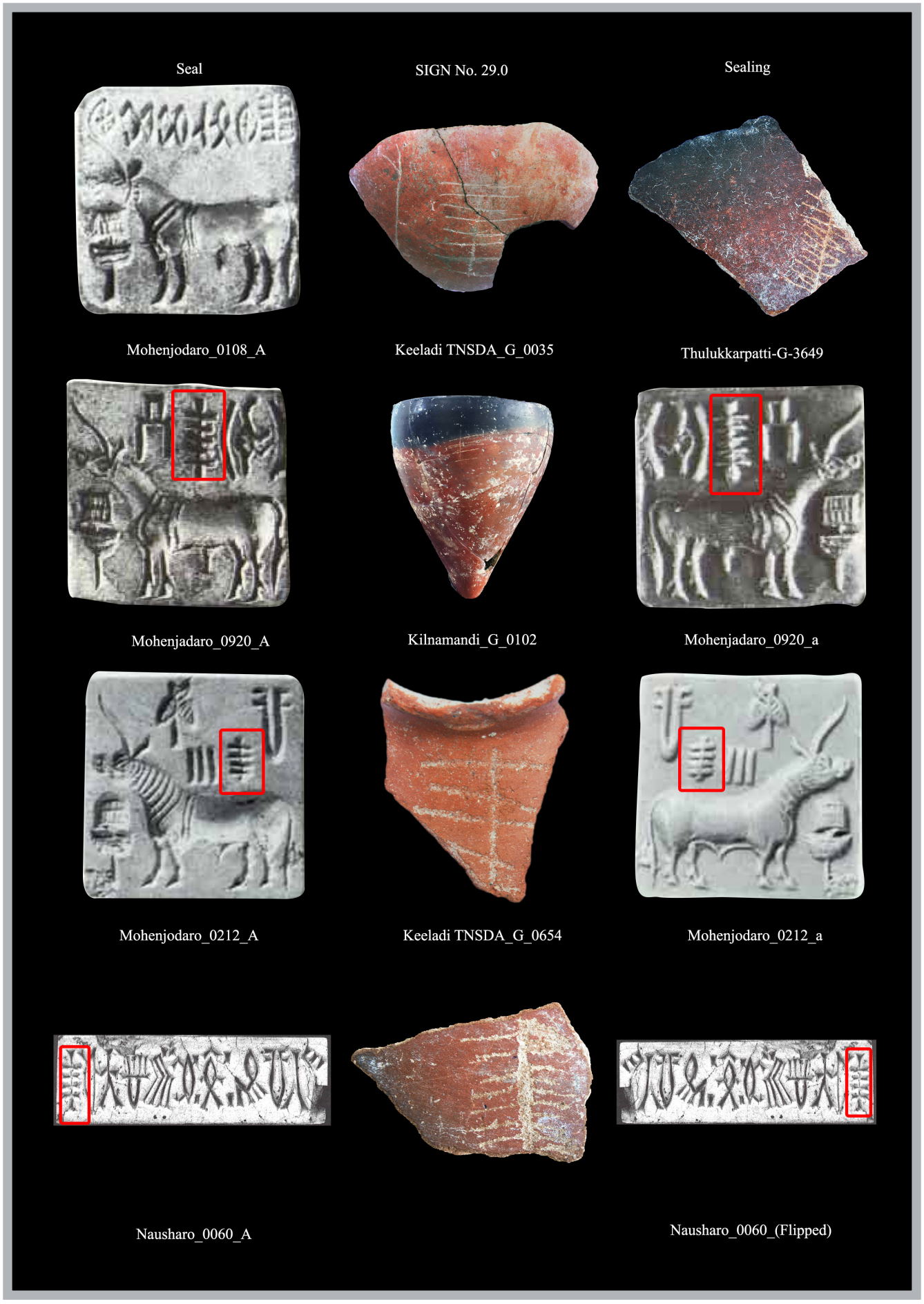

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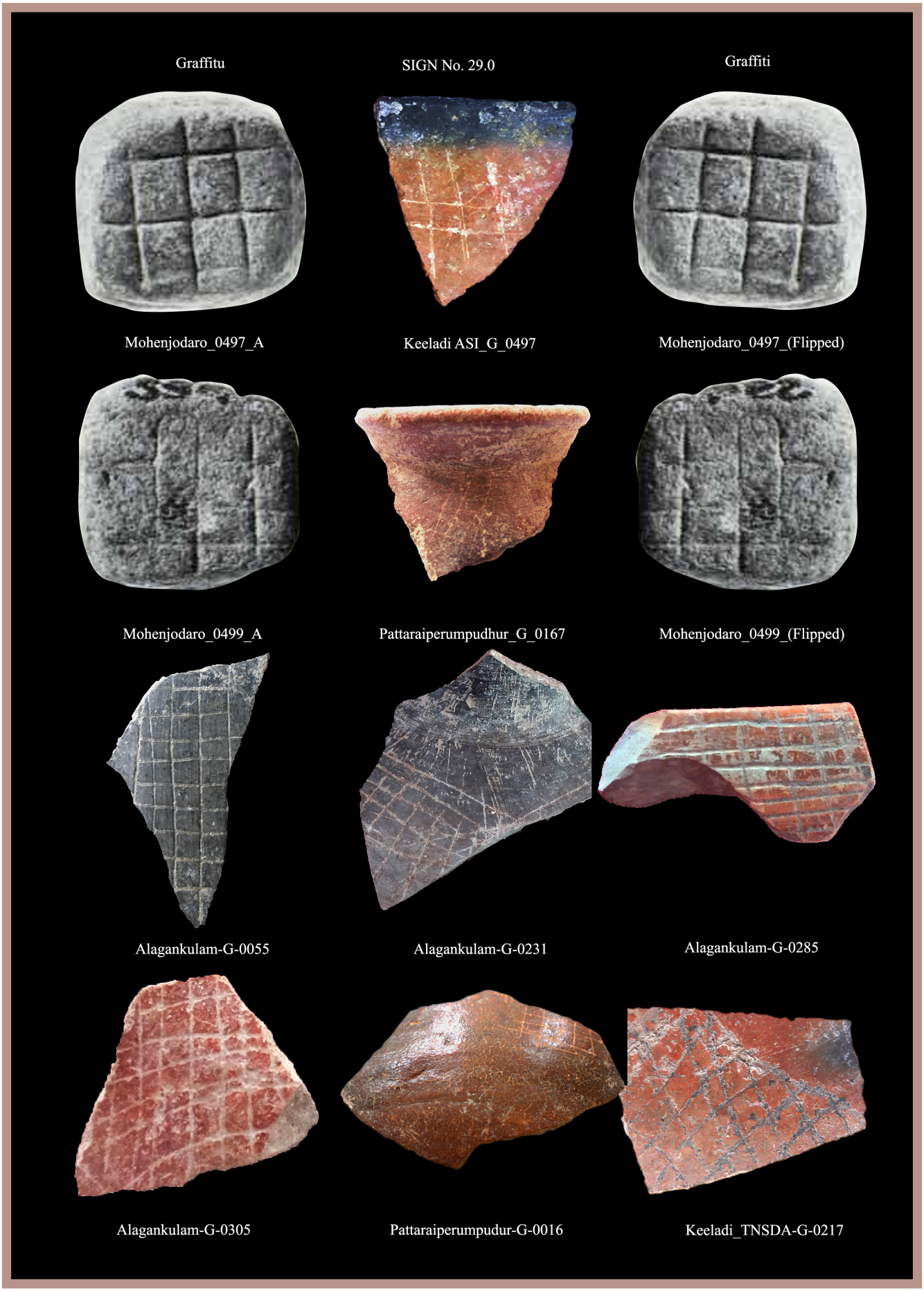

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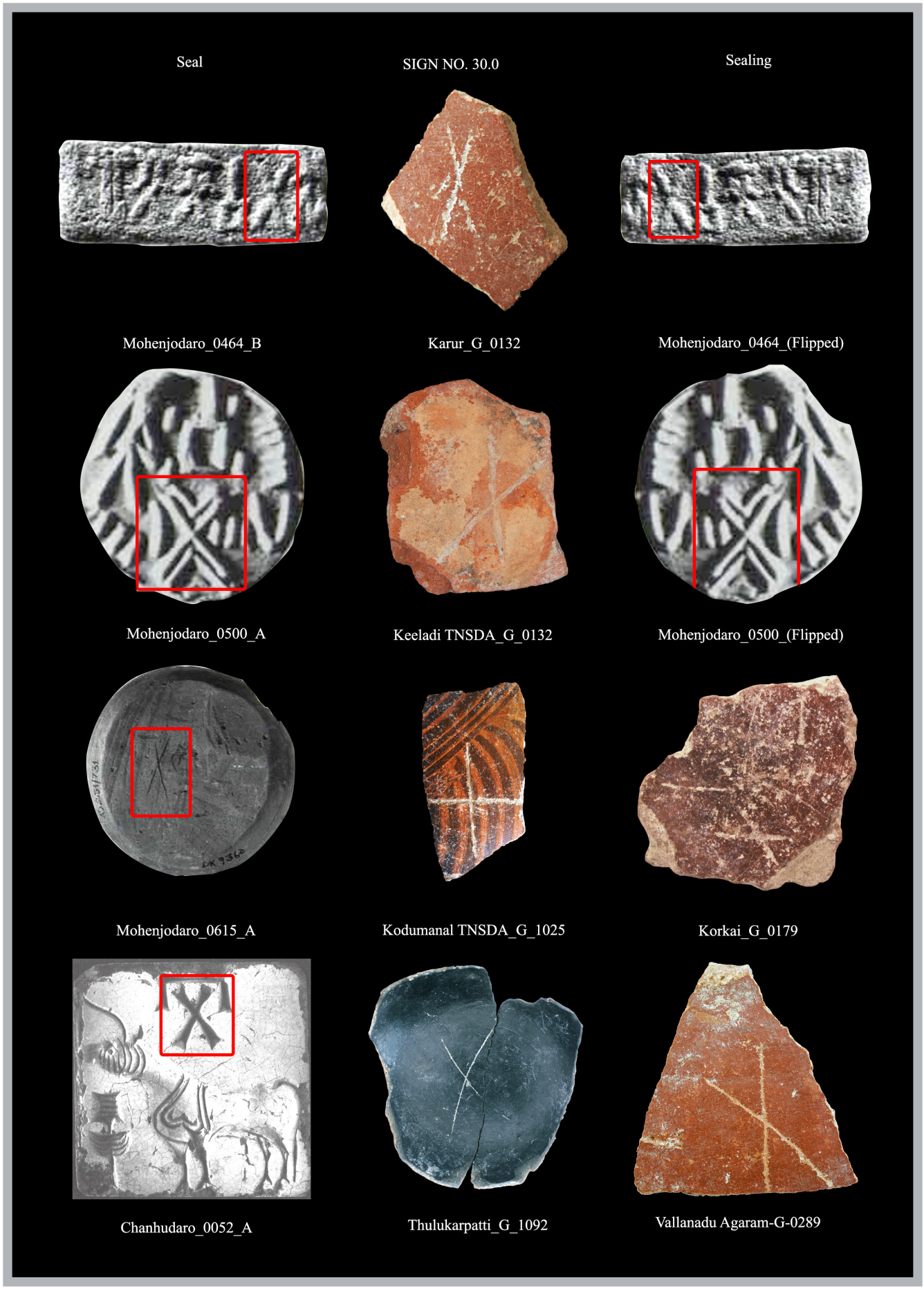

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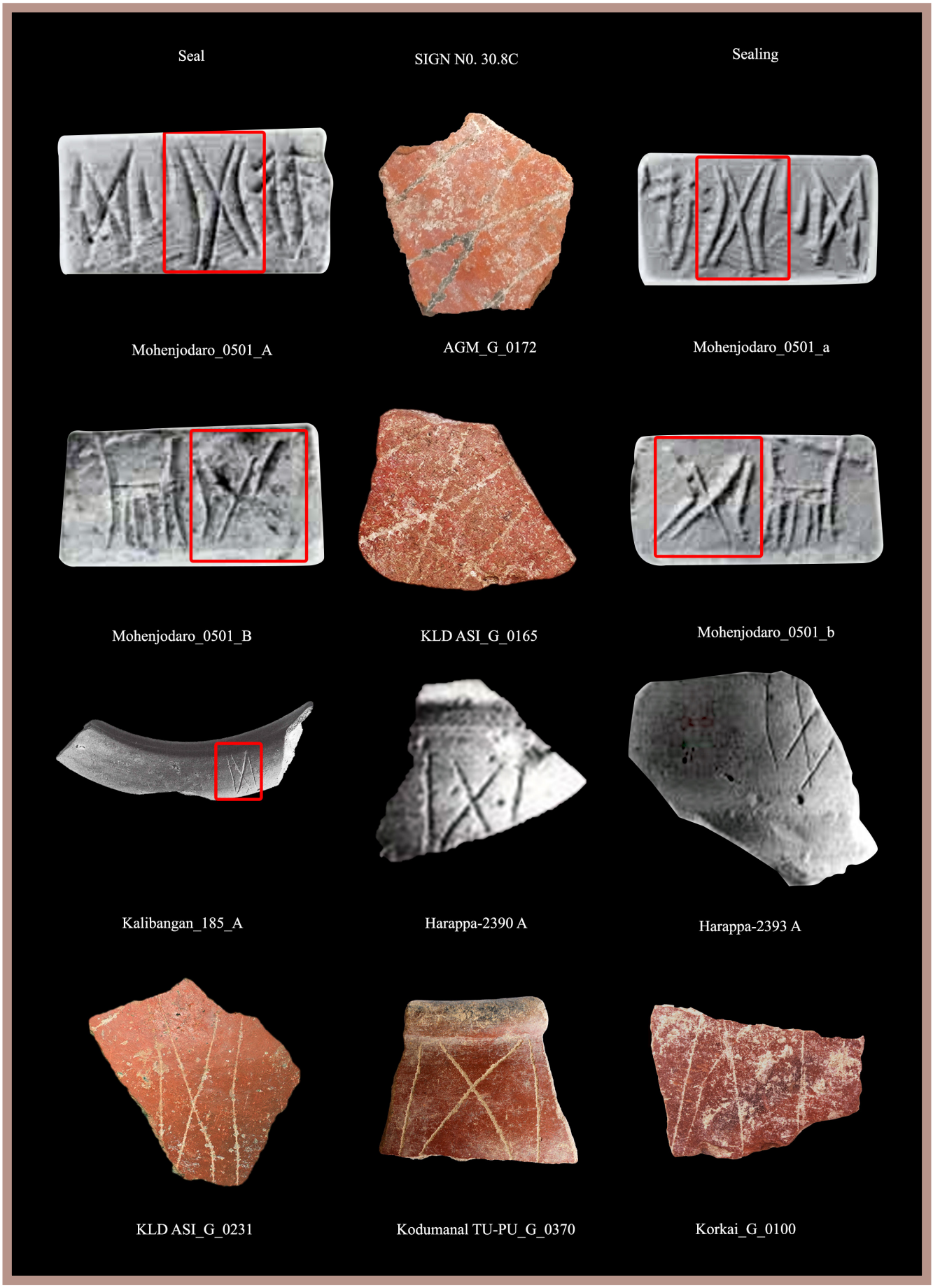

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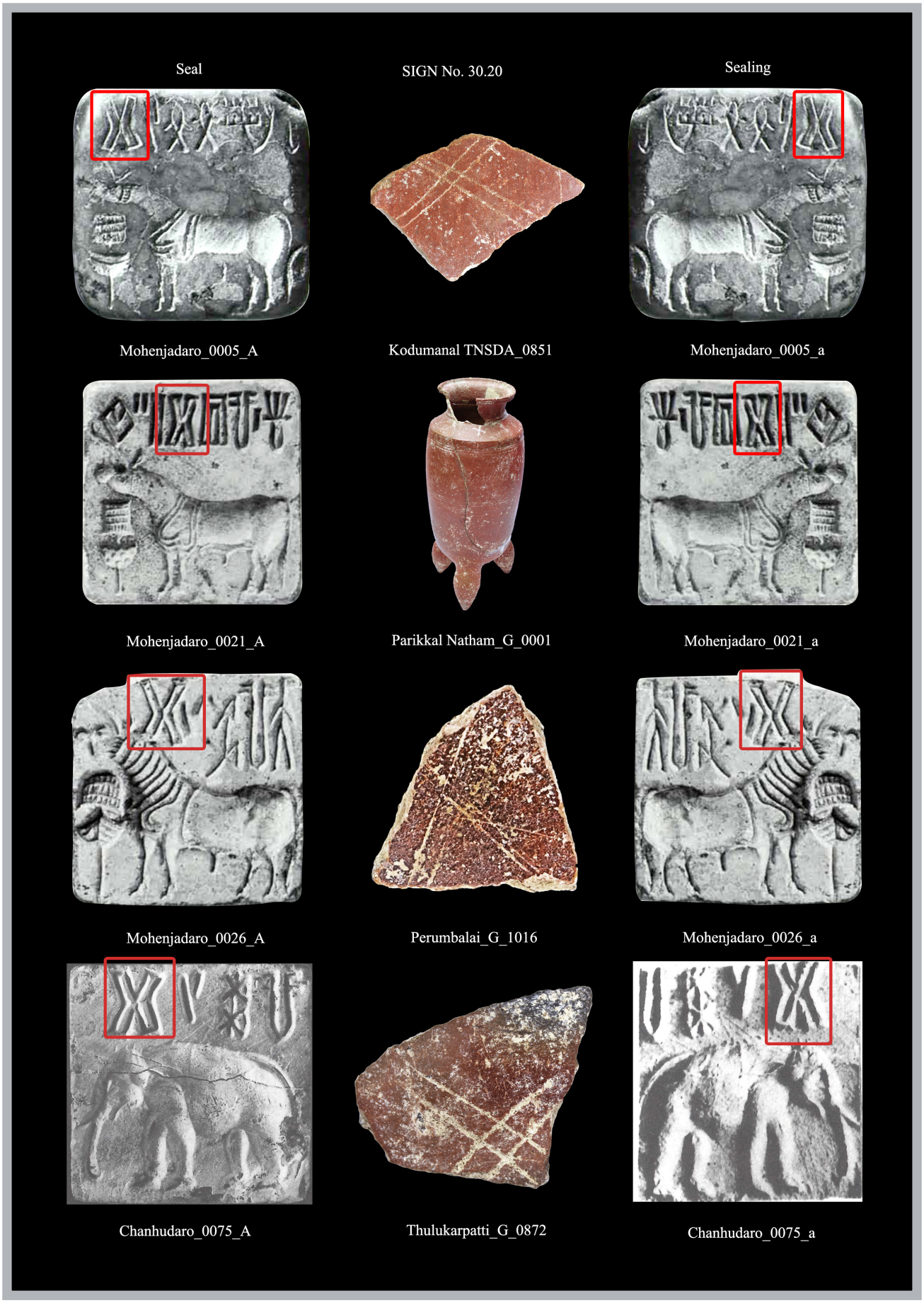

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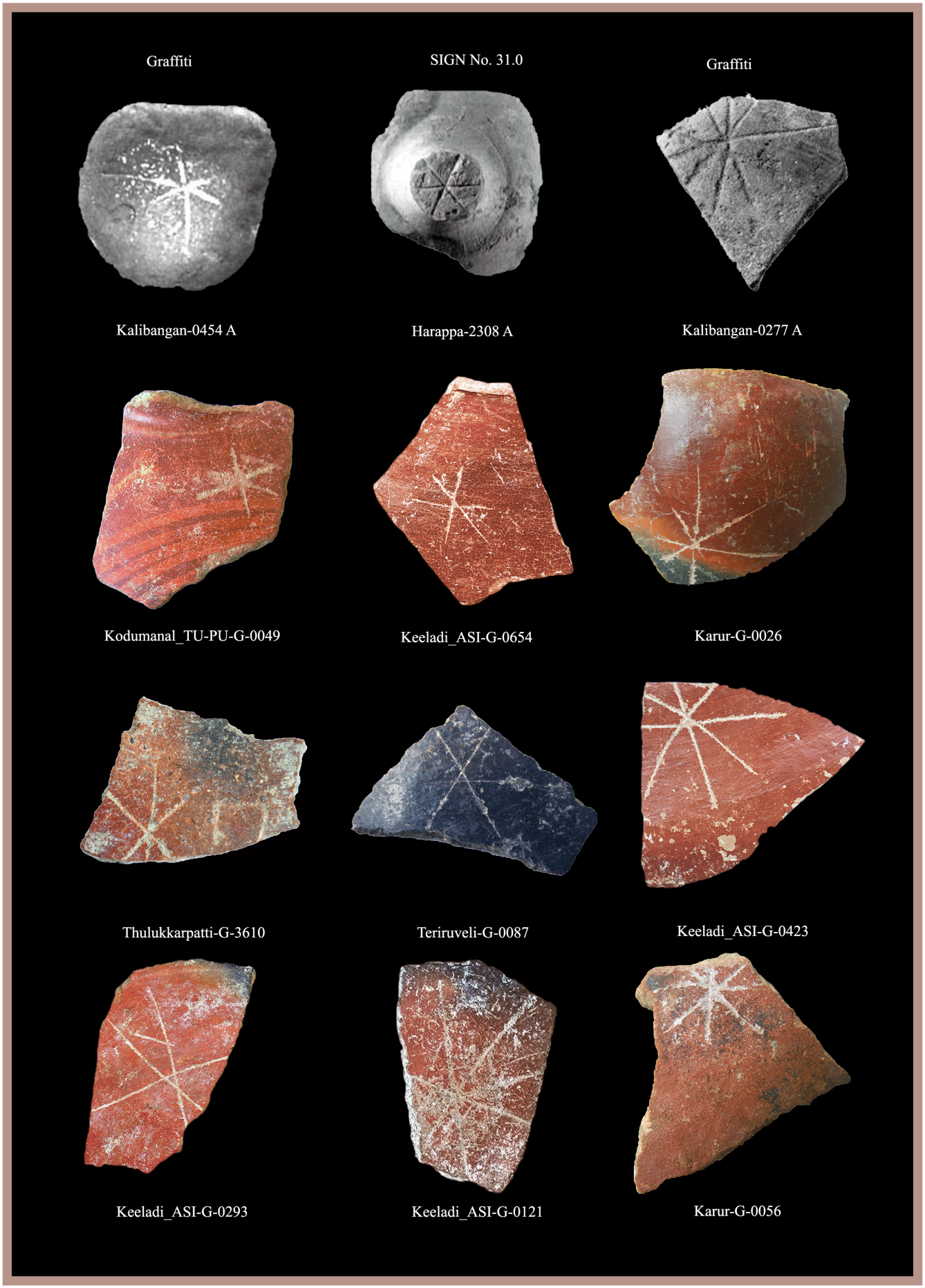

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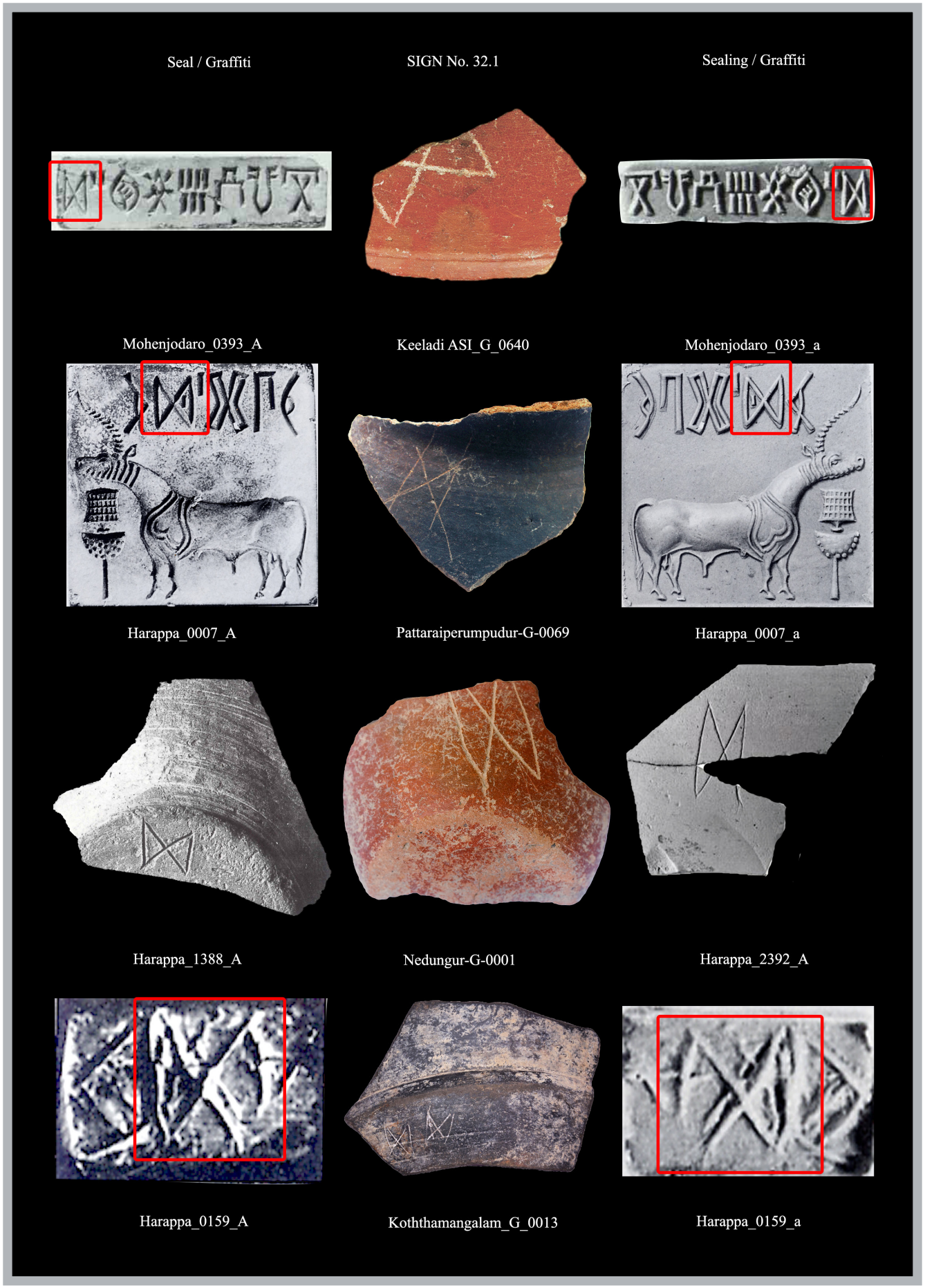

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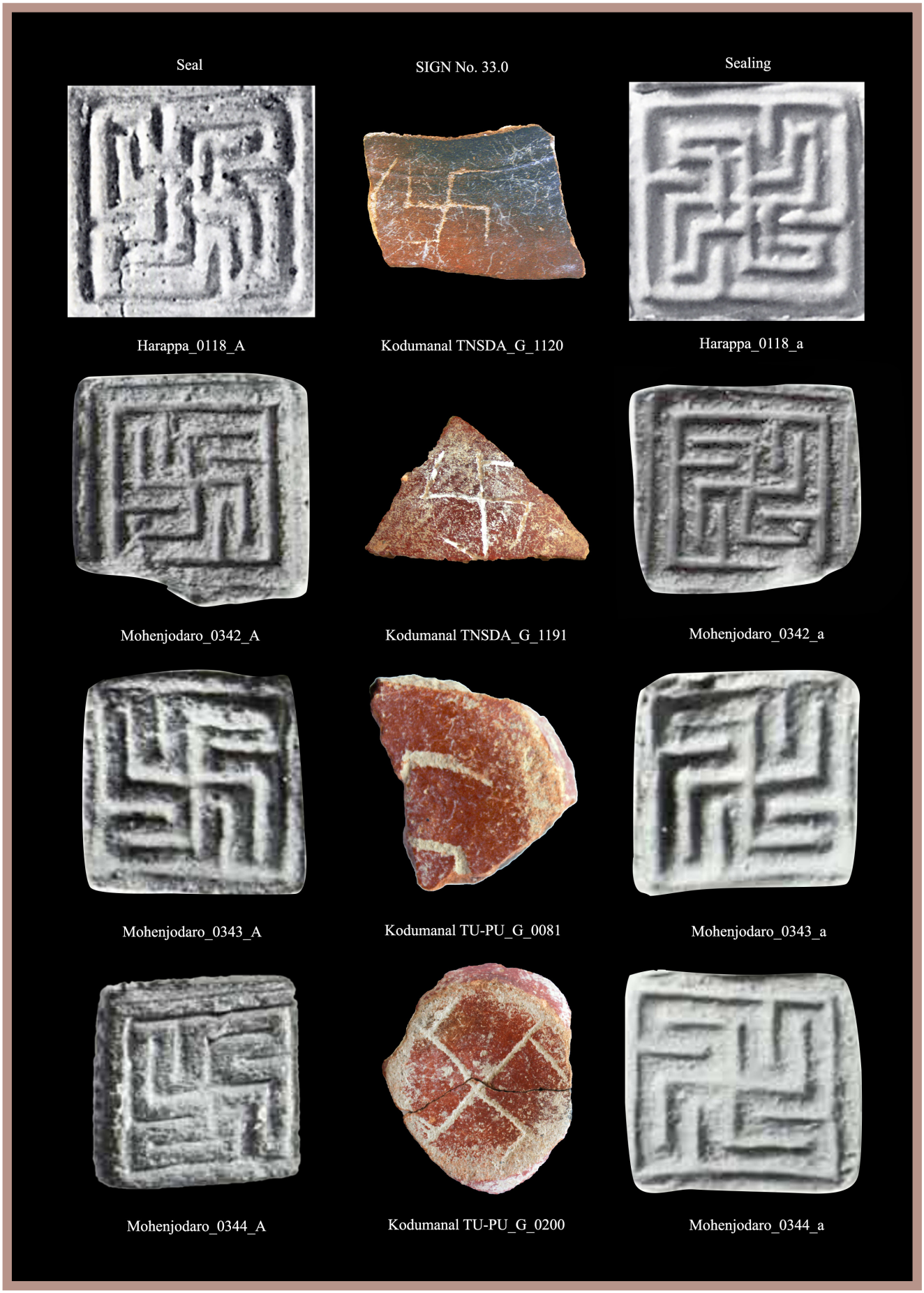

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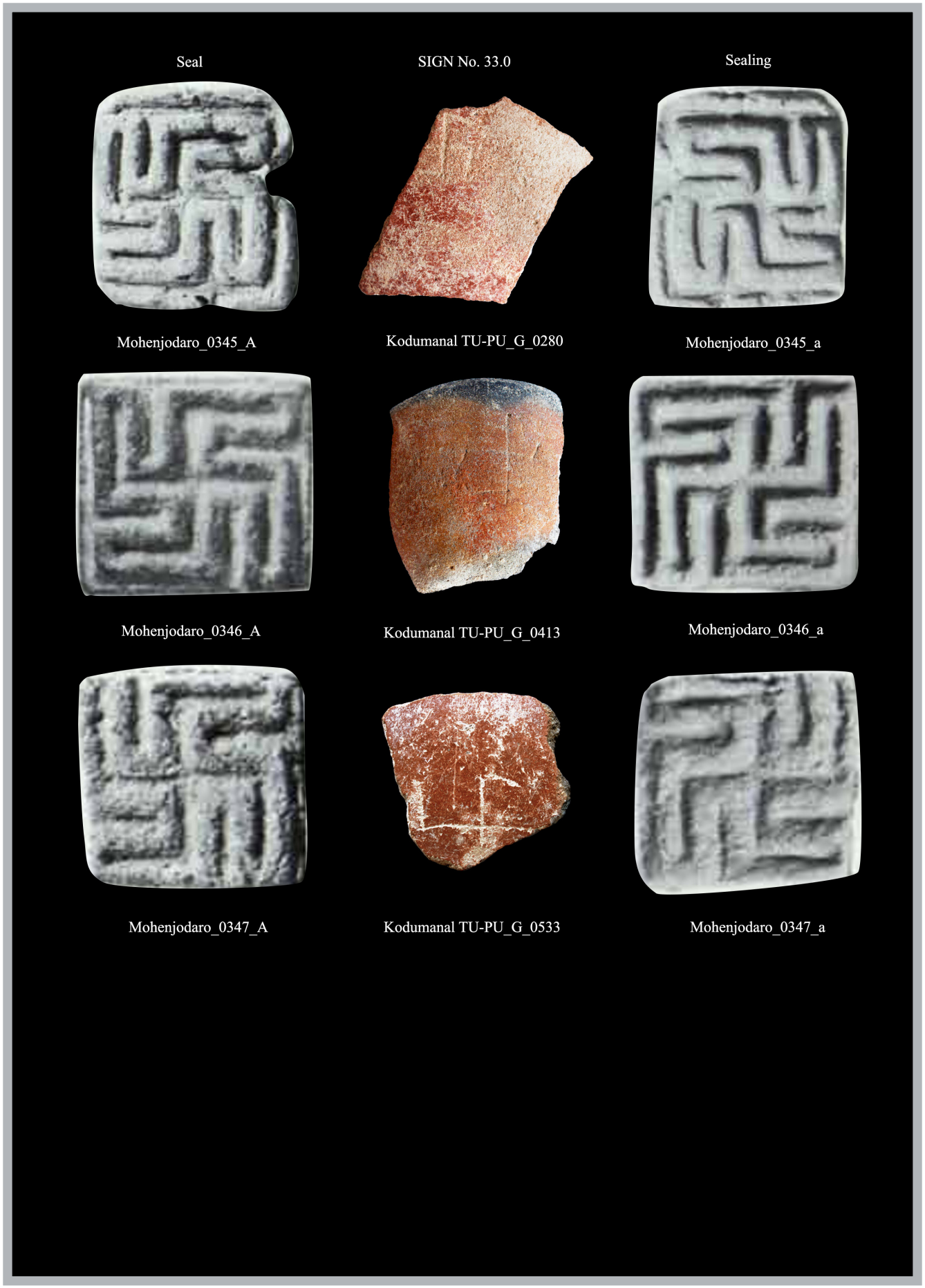

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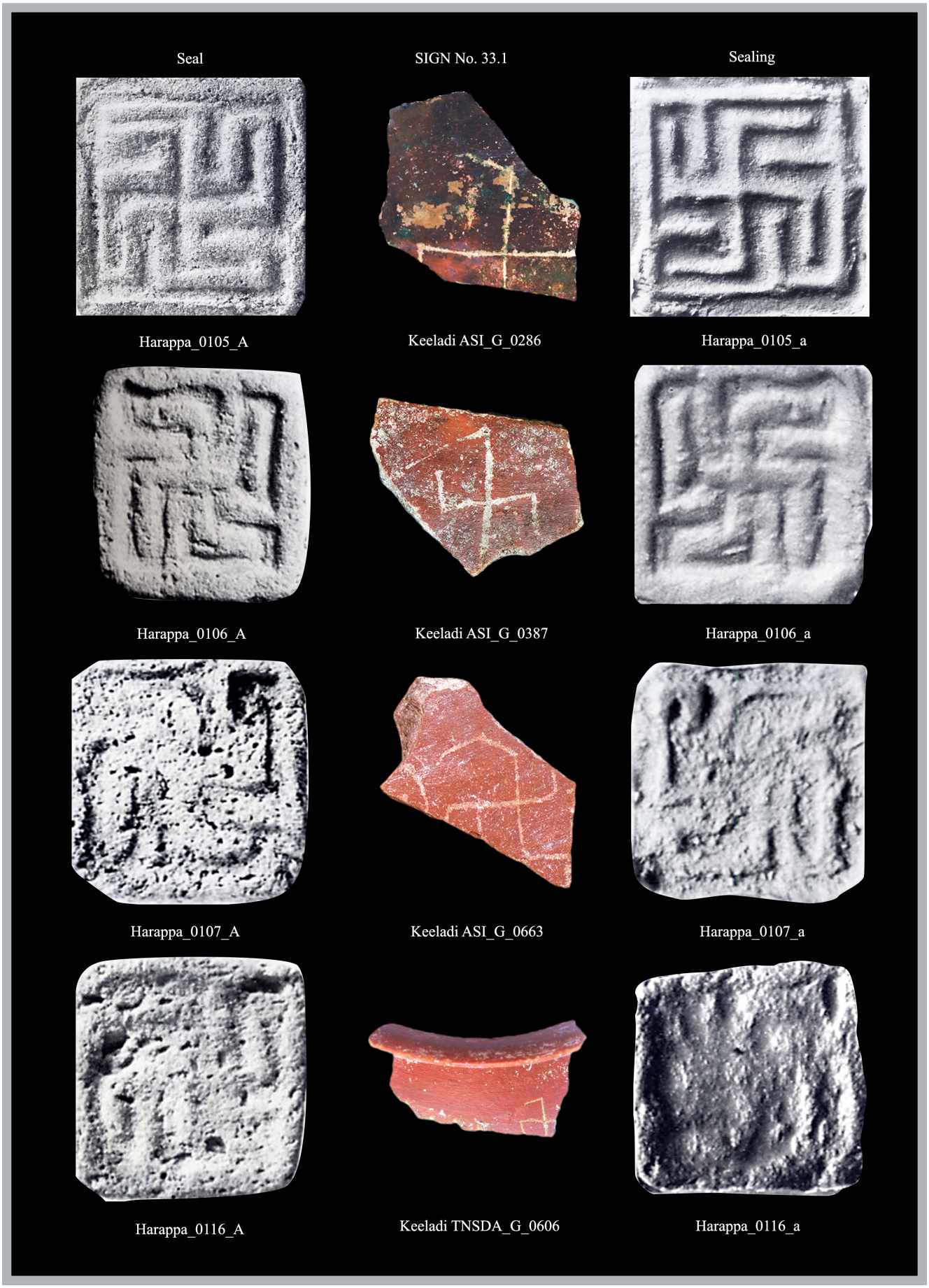

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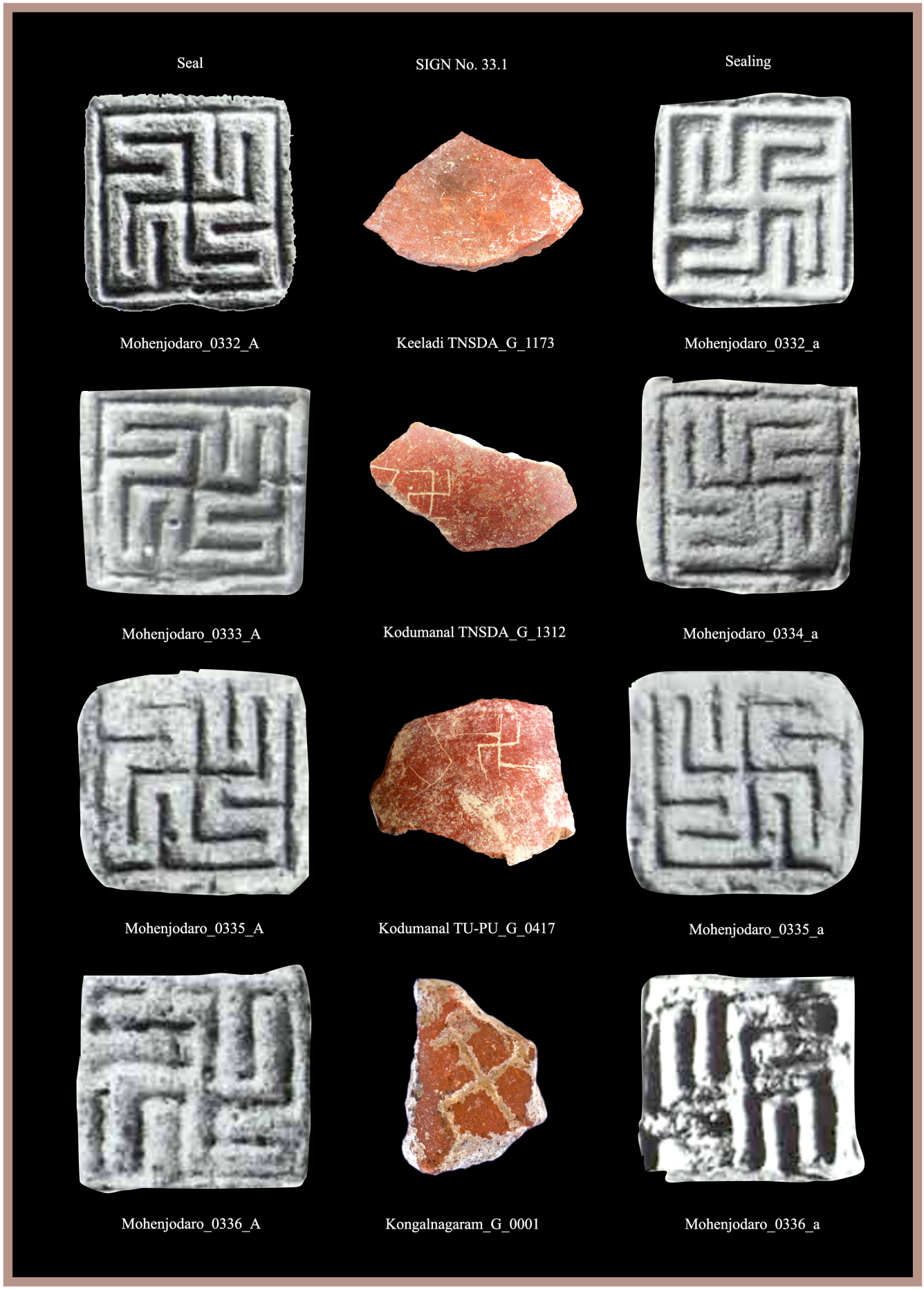

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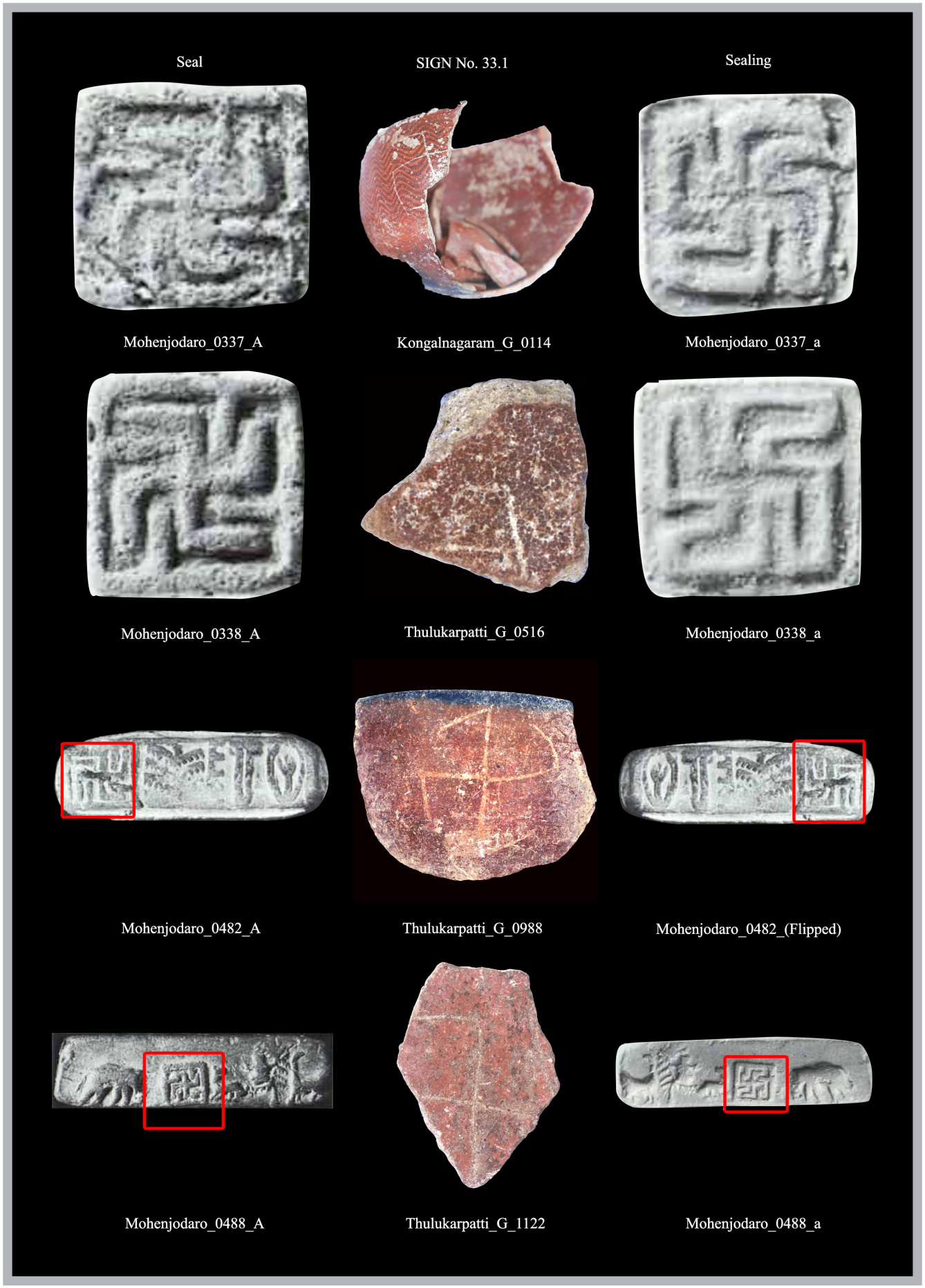

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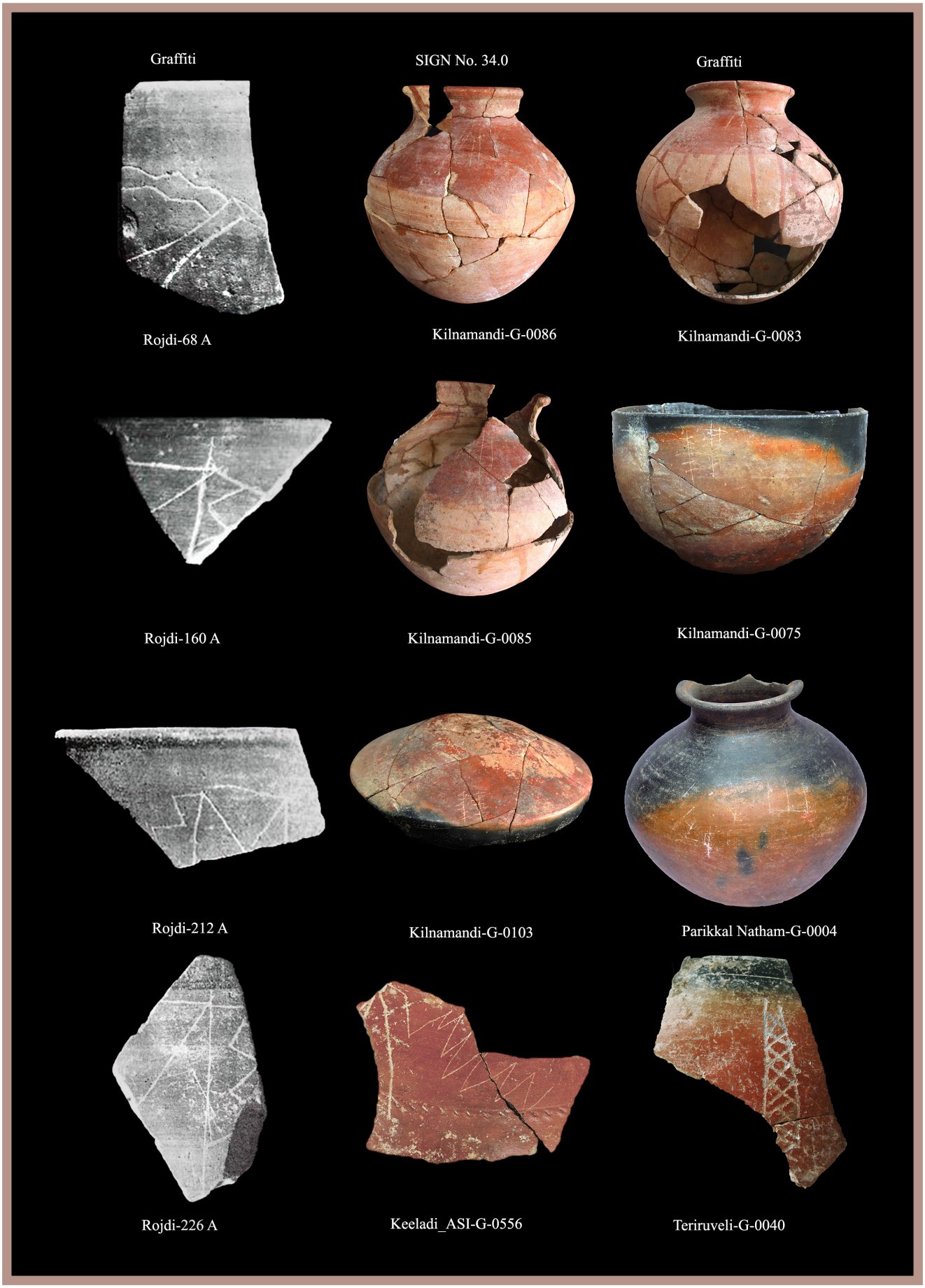

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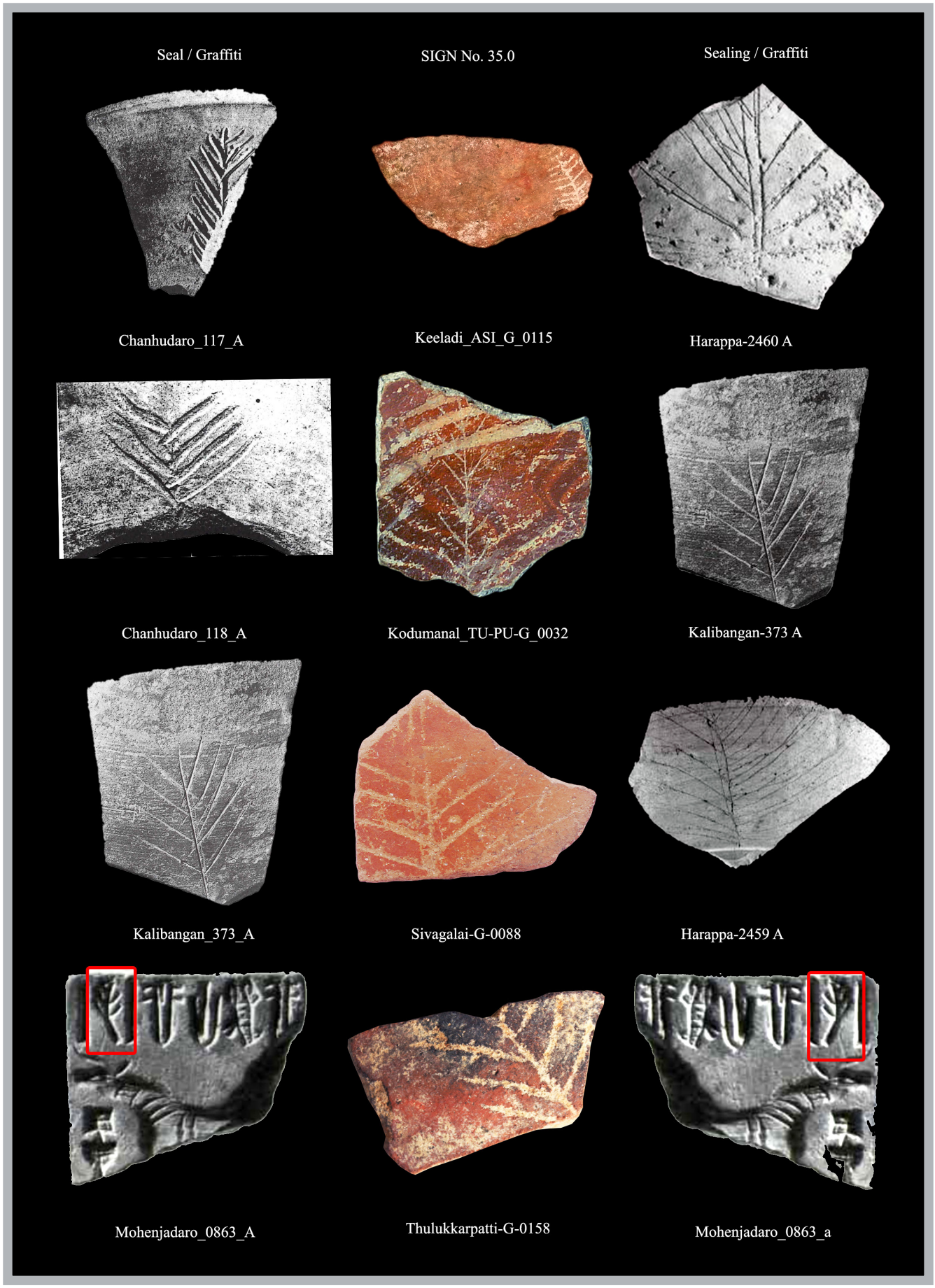

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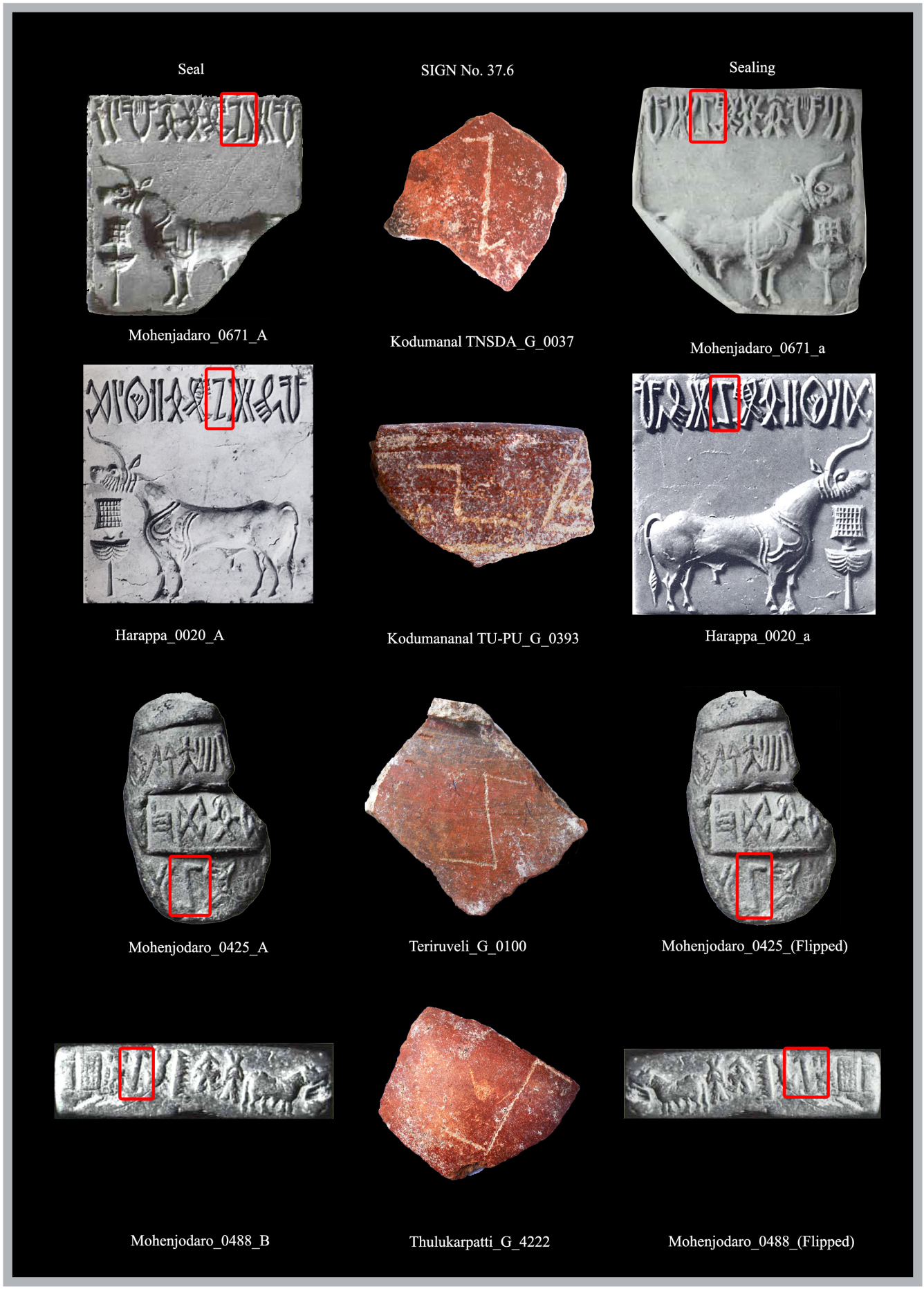

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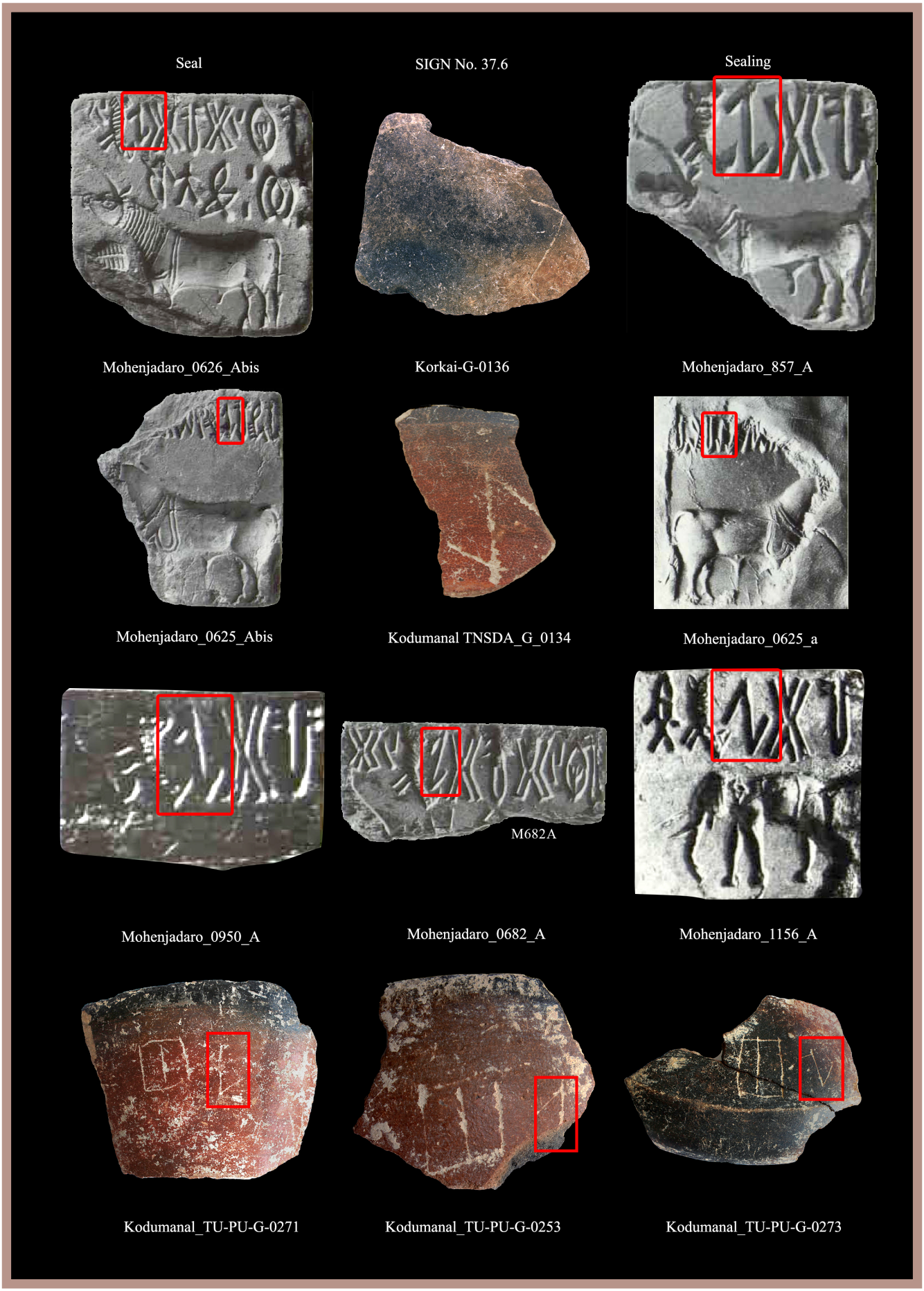

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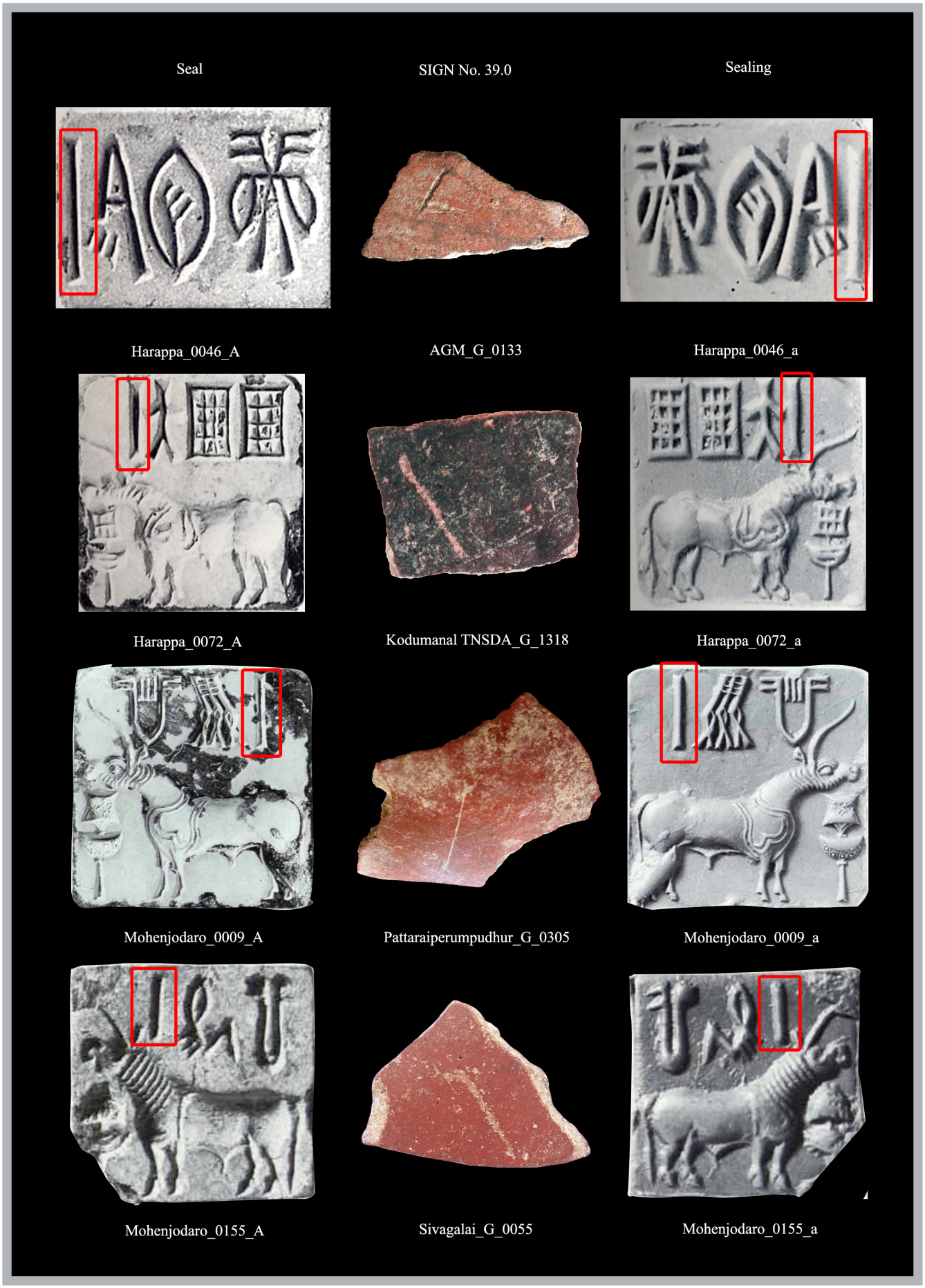

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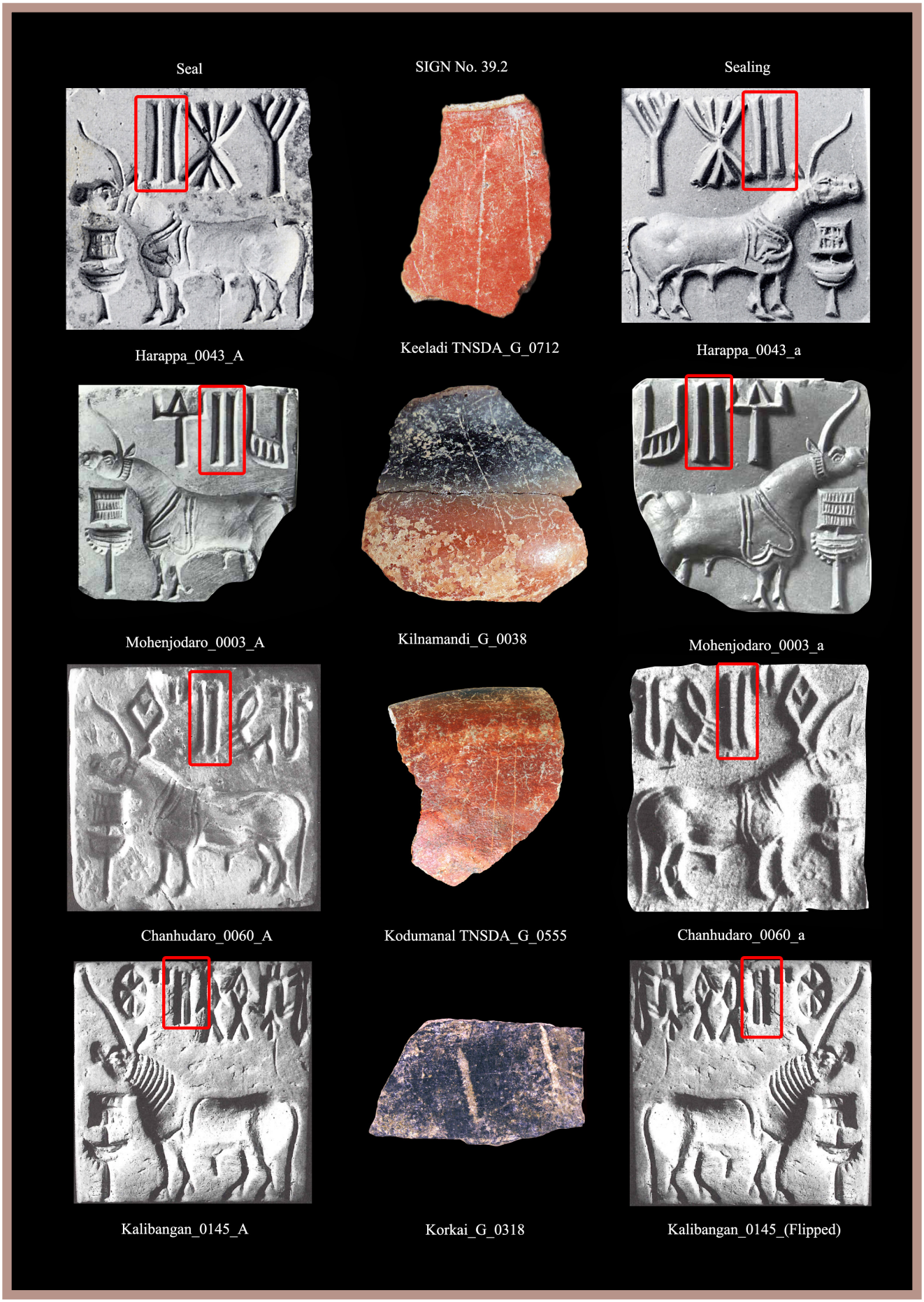

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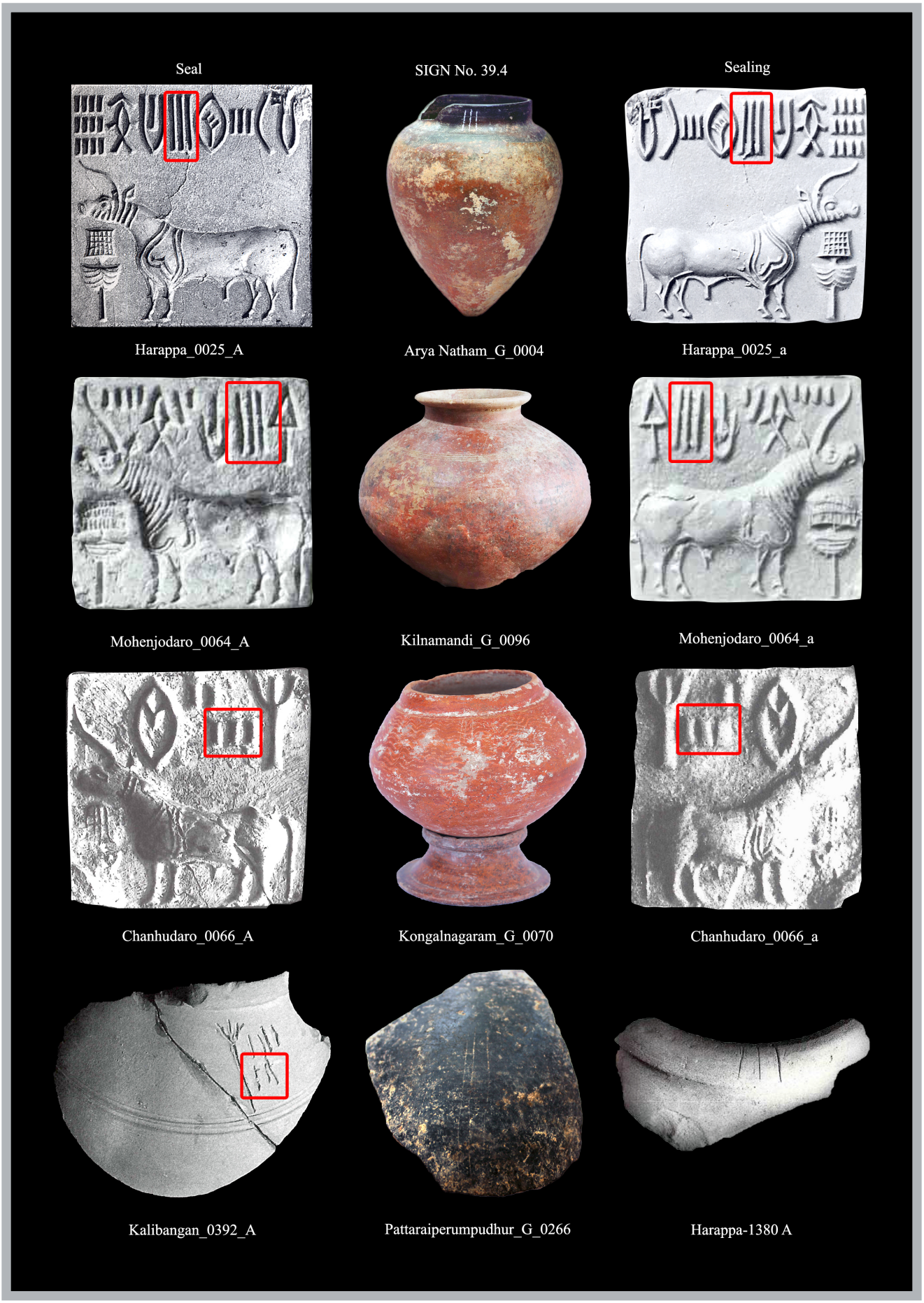

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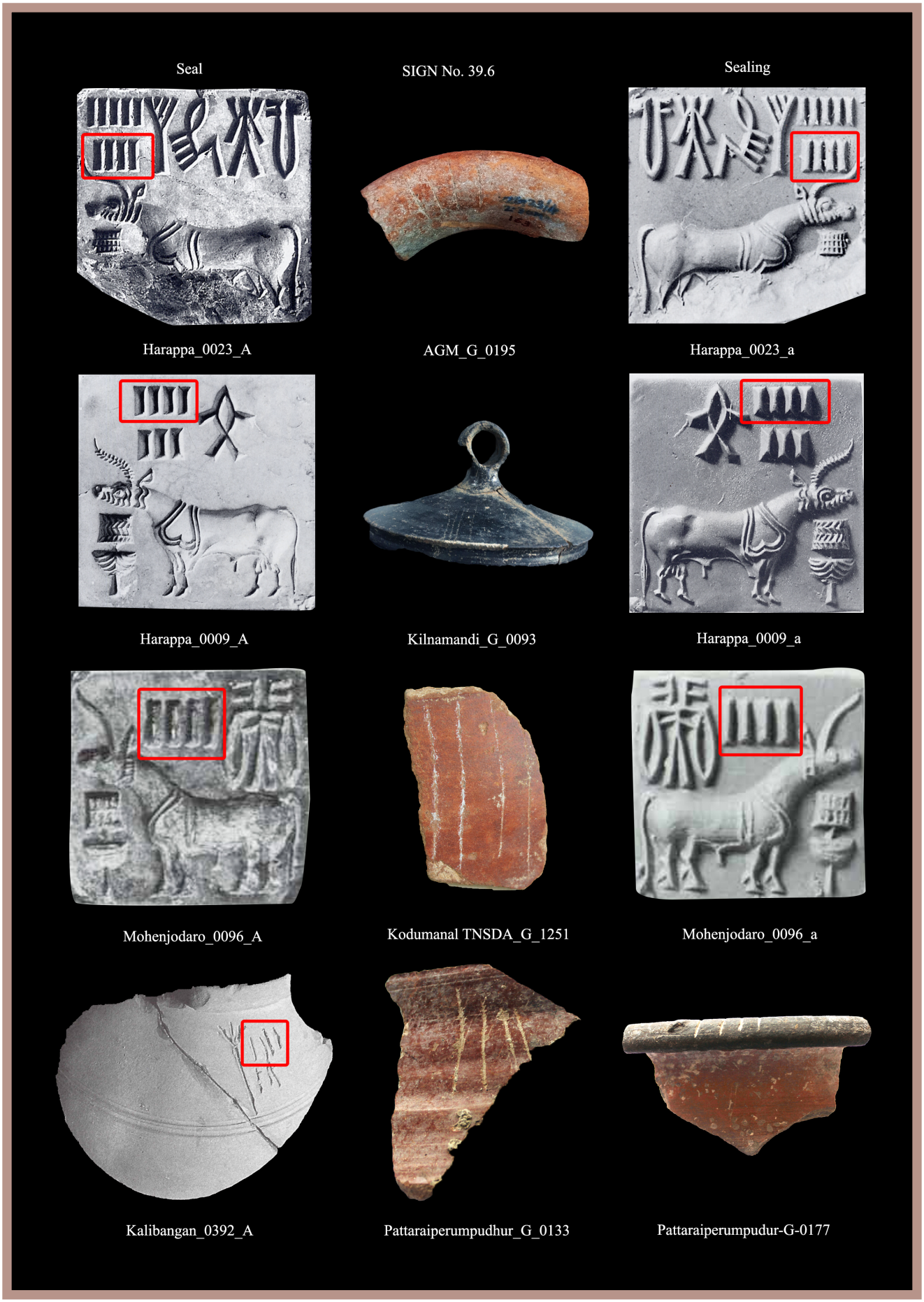

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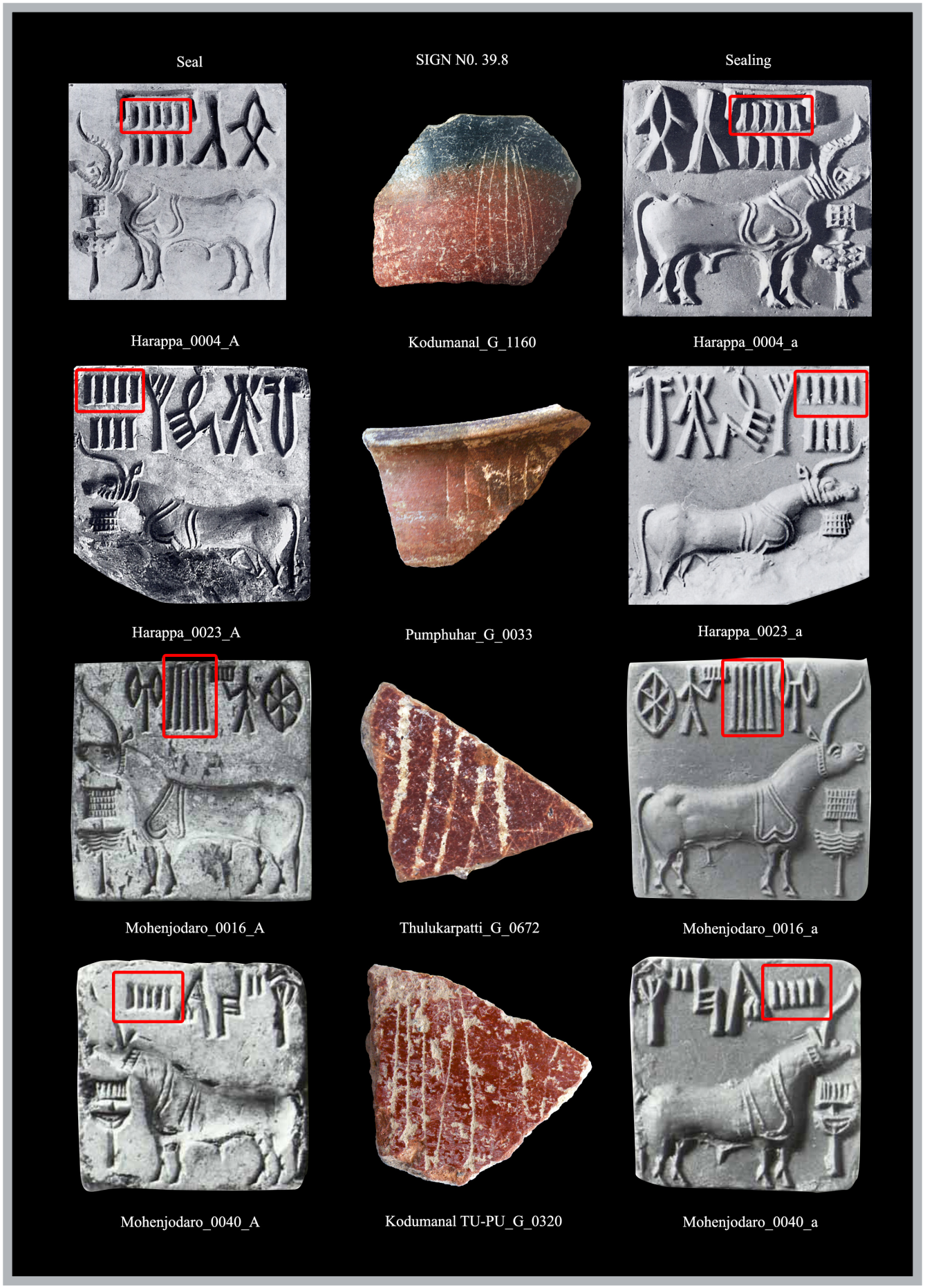

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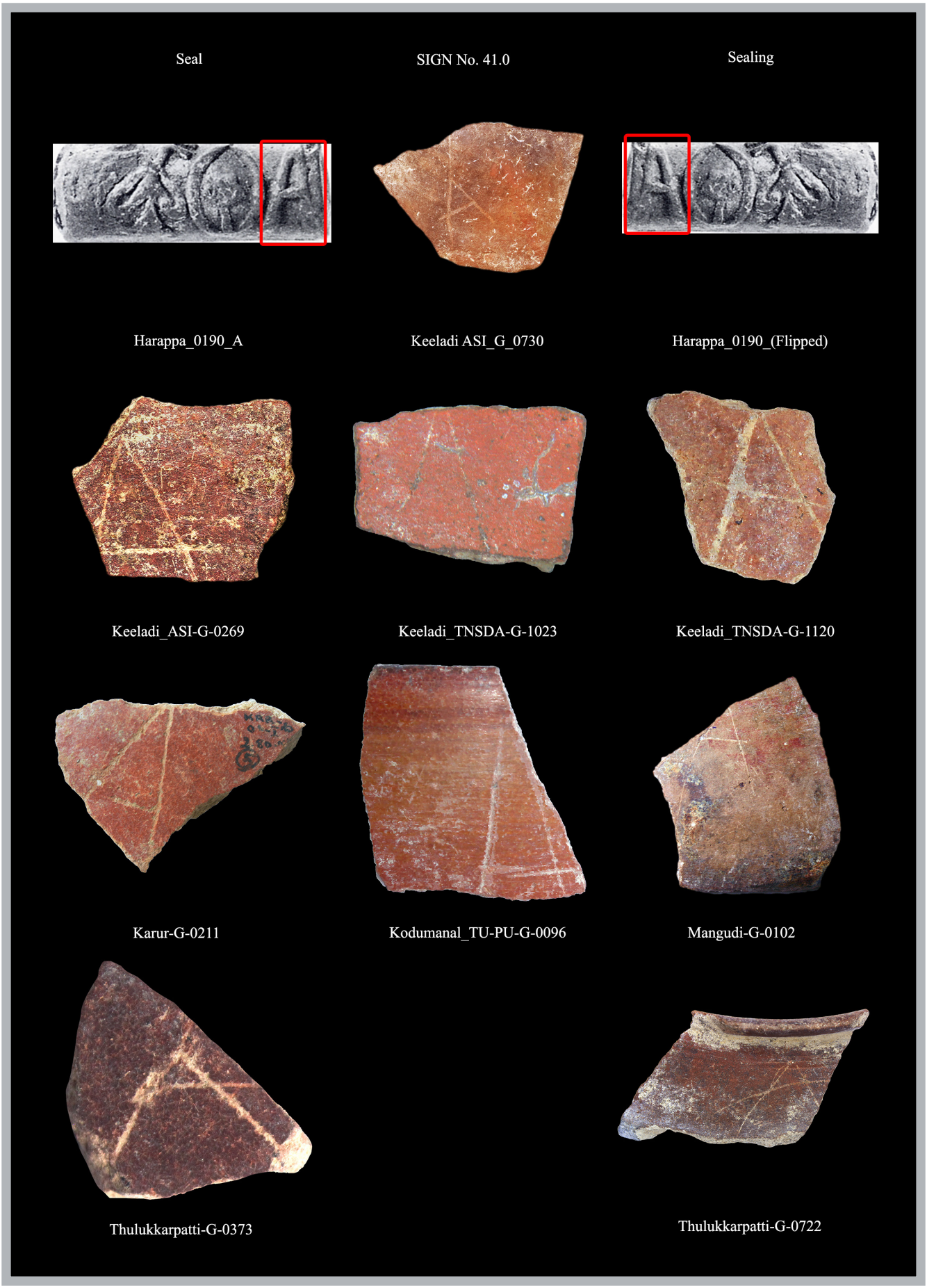

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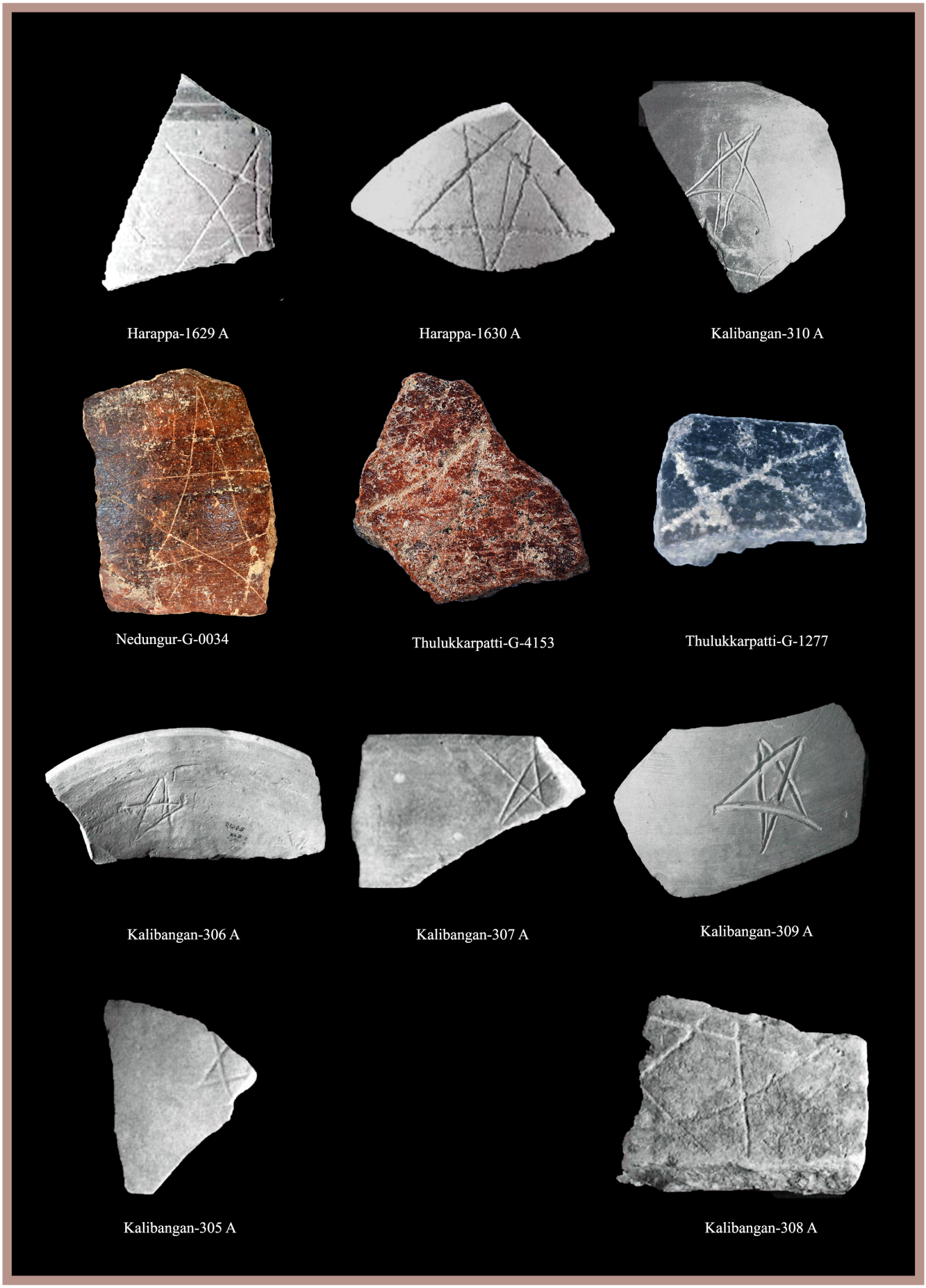

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